

**EPA Reg. No. 83520-4**  
**Vol 3**

# Material Sent for Data Extraction

Reg. # 83520-4

Description: Review of Storage Stability & Corrosion Studies

☐ Material(s) Sent to Data Extraction Contractors:

☐ New Stamped Label Dated \_\_\_\_\_

☐ Notification Dated \_\_\_\_\_

☐ New CSF(s) Dated \_\_\_\_\_

☒ Other: \_\_\_\_\_

☐ Decision #: 485483

☒ Other Action/Comments: Data Evaluation Record

File this coversheet and attached materials in the jacket. It must be well organized and clipped together, NOT STAPLED. Then give the jacket with the coversheet and materials to staff in the Information Services Center (ISC) (Room S-4900). If a jacket is full or only available as an image, please file materials in a new jacket and bring it down to the (ISC). For further information please call 703-605-0716.

Reviewer: Don J. Reeder

Phone: 308-8829 Division: RD

Date: 8-22-14



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

SAFETY

OFFICE OF CHEMICAL  
AND POLLUTION PREVENTION

JUL 22 2014

Ms. Jane M. Miller  
Agent to Tacoma AG, LLC  
Biologic Consulting, Inc.  
115 Obtuse Hill Road  
Brookfield, CT 06804

**Subject: Review of Storage Stability & Corrosion Characteristics Studies/  
Bifen 25% EC; Reg. No. 83520-4  
Your Submission Dated October 30, 2013  
Decision No. 485483**

Dear Registrant:

The Agency has completed its review of the Storage Stability & Corrosion Characteristics studies submitted for:

Tacoma AG, LLC/Bifen 25% EC; (EPA Reg. No. 62719-608), and has reached the following decision.

<u>Guideline 830.6317</u>	<u>Storage Stability</u>	<u>MRID 49249301</u>
<u>Guideline 830.6320</u>	<u>Corrosion Characteristics</u>	<u>MRID 49249301</u>

The Agency has determined that the Storage Stability & Corrosion Characteristics studies are acceptable and satisfy the 40 CFR §158.190 guideline requirements for the referenced product.

A copy of the Data Evaluation Record (DER) for these studies is enclosed for your use and reference. If you have any questions regarding this letter, please contact Mr. Owen F. Beeder, directly at (703) 308-8899 or via e-mail at [beeder.owen@epa.gov](mailto:beeder.owen@epa.gov).

Sincerely,

A handwritten signature in black ink, appearing to read "Richard Gebken".

Richard Gebken  
Product Manager 10  
Insecticide Branch  
Registration Division (7505P)

Attachment: 1



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

OFFICE OF PESTICIDE PROGRAMS  
REGISTRATION DIVISION (7505P)

DATE OUT: June 26, 2014

SUBJECT: STORAGE STABILITY (830.6317) & CORROSION CHARACTERISTICS  
(830.6320) REVIEW

ACCELERATED STUDY ☐; ONE YEAR STUDY ☒;

OVER 1 YEAR STUDY ☐

MP ☐ EP ☒ EUP ☐

DP BARCODE No.: 416933 REG. No.: 83520-4 FILE SYMBOL No.:

DECISION No.: 485483 MRID No(s): 492493-01

PRODUCT NAME: BIFEM 25% EC

COMPANY: TACOMA AG, LCC

FROM: Linda Mascall / Shyam  
Product Chemistry Team  
Technical Review Branch/RD (7505P)

*Linda Mascall*  
*Shyam 61-7114*

TO: Owen Beeder / Richard Gebken, RM 10  
Insecticide Branch / RD (7505P)

I. CONCLUSIONS:

STORAGE STABILITY (830.6317):

☒ ACCEPTABLE

☐ UNACCEPTABLE\*

☐ UPGRADEABLE\*

40CFR158.190 DATA REQUIREMENT: ☒ SATISFIED ☐ NOT SATISFIED

CORROSION CHARACTERISTICS (830.6320):

☒ ACCEPTABLE

☐ UNACCEPTABLE\*

☐ UPGRADEABLE\*

40CFR158.190 DATA REQUIREMENT: ☒ SATISFIED ☐ NOT SATISFIED

\* If unacceptable or upgradeable describe the deficiency and provide recommendations



### Comments & Recommendations:

No changes in the integrity of the test or reserve container were observed at any point over the storage interval. The containers showed negligible weight change over the storage interval. Some slight paneling at the bottom of the containers was observed at the 12-month point, but was not reported earlier in the storage period.

## II. STUDY SUMMARY

### A. STUDY CONDUCTED UNDER US GLP/OECD GUIDELINES

☒ Yes

☐ No

### B. PRODUCT INFORMATION

Active ingredient(s): Bifenthrin

Label claim(s) Nominal concentration(s) (%): 25.0

Initial concentration(s) of the AI(s) (%) used in the study: 24.93

Lower certified limits (%) based on AI % in the study: 24.2521

### C. EXPERIMENTAL PARAMETERS

Temperature: ☐ Freezer; Room ☐; Warehouse ☒; 54°C ☐; Other ☐

Humidity: Indicate % (if provided)

Duration of study: ☒ 1 year; ☐ over 1 year

Type of container: ☐ Glass; ☐ Metal; ☐ HDPE; ☒ Fluorinated HDPE; ☐ Other

Analysis at intervals: ☐ 0 (initial);

☒ 3 months; ☒ 6 months

☒ 9 months; ☒ 12 months

☐ Over 12 months

#### D. ANALYTICAL METHOD

Method	DETECTOR
Gas chromatography (GC)	<input type="checkbox"/> FID (Flame Ionization Detector) <input type="checkbox"/> ECD (Electron Capture Detector) <input type="checkbox"/> N/P (Nitrogen/Phosphorous Detector) <input type="checkbox"/> Other
Capillary Gas chromatography (CGC)	<input type="checkbox"/> FID (Flame Ionization Detector) <input type="checkbox"/> ECD (Electron Capture Detector) <input type="checkbox"/> N/P (Nitrogen/Phosphorous Detector) <input type="checkbox"/> Other
High Pressure Liquid chromatography (HPLC)	<input checked="" type="checkbox"/> UV/VIS (nm) - 230 nm <input type="checkbox"/> RI (Refractive Index) <input type="checkbox"/> Other
GC-MS / LC-MS	Specify
Other	Specify

#### E. RESULTS

Test Period	Preparation A	Preparation B	Mean
Initial	24.93 %	24.96 %	24.94 %
3 Months	25.15 %	25.17 %	25.16 %
6 Months	25.12 %	25.17 %	25.15 %
9 Months	25.07 %	25.16 %	25.11 %
12 Months	25.20 %	25.25 %	25.22 %
Slope of regression line, percent per year			+ 0.205
T-statistic of slope			+ 2.073
Critical value of t-statistic, 95 % confidence			± 3.182
Lower Certified Limit			24.25 %
Upper Certified Limit			25.75 %

**BIOLOGIC CONSULTING, Inc.**  
*agribusiness professionals*

**49249300**

October 30, 2013

Document Processing Desk  
Office of Pesticide Programs (7504P)  
US Environmental Protection Agency  
One Potomac Yard  
2777 S. Crystal Drive  
Room S-4900, 4<sup>th</sup> Floor  
Arlington, VA 22202

Attention: Mr. Richard Gebken (PM #10)  
RE: Bifen 25% EC; EPA Reg. No. 83520-4  
Submission of Storage Stability and Corrosion Characteristics Data

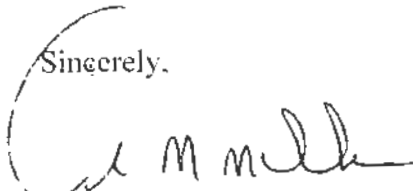
Dear Mr. Gebken:

Please find enclosed three (3) copies of the following report:

MRID # -- "Storage Stability and Corrosion Characteristics of  
**49249301** Bifen 25% EC"  
OPPTS Guidelines 830.6317 and 830.6320

Should you have any questions, or wish to reach me, please feel free to contact our office  
at 203-740-1200.

Sincerely,



Jane M. Miller  
Agent to Tacoma AG, LLC

115 Obtuse Hill Road • Brookfield, CT 06804  
Tel: 203.740.1200 • Fax: 203.740.1220  
Email: [jmiller@biologicconsulting.com](mailto:jmiller@biologicconsulting.com)



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

August 27, 2013

Ms. Jane M. Miller  
Agent to Tacoma AG, LLC  
Biologic, Inc  
115 Obtuse Hill Road  
Brookfield, CT 06804

Dear Ms. Miller:

Subject: Minor Formulation Amendment

The Agency is in receipt of your Application for Pesticide Notification under Pesticide Registration Notice (PRN) 98-10 dated 6/28/2013 for **EPA Registration 83520-4**. The Registration Division (RD) has conducted a review of the Confidential Statement of Formula (CSF) submitted with this request for its applicability under PRN 98-10 and finds that the change(s) requested falls within the scope of PRN 98-10. Therefore, Alternate #7 CSF dated 6/28/2013 is **acceptable**. A copy of the CSF has been added to the registration file for the subject product.

If you have any questions, please contact me via telephone at 703-308-8353 or e-mail ([debesai.alganesesh@epa.gov](mailto:debesai.alganesesh@epa.gov)).

Sincerely,

A handwritten signature in black ink that reads "Alganesh Dehesai".

Alganesh Dehesai  
Inert Ingredient Assessment Branch (IIAB)  
Registration Division (7505P)  
Office of Pesticide Programs





United States  
Environmental Protection Agency  
Washington, DC 20460

☐ Registration  
☒ Amendment  
☐ Other

OPP Identifier Number

## Application for Pesticide - Section I

1. Company/Product Number 83520-4	2. EPA Product Manager R. Gebken	3. Proposed Classification <input type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Bifen 25% EC	PM# 10	
5. Name and Address of Applicant (Include ZIP Code) Tacoma AG, LLC c/o Biologic, Inc. 115 Obtuse Hill Road Brookfield, CT 06804 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

## Section - II

<input checked="" type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

This is a MINOR FORMULATION AMENDMENT AS PER PR NOTICE 98-10 to submit: an alternate CSF to - add alternate producers and add alternate inert ingredients. This action qualifies as a Minor Formulation Amendment for the following reasons: 1. The nominal concentration of the active ingredient does not change; 2. The change does not invalidate any product-specific data submitted in support of the initial registration which will cause additional data to be required; and 4. The alternate formulation will not change the acute toxicity category necessitating label changes. This action will not fall within the scope of PRIA and should be completed in 45 days.

Agent: Jane M. Miller email: jmill@biologicconsulting.com

## Section - III

1. Material This Product Will Be Packaged In:			
Child-Resistant Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	2. Type of Container <input type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____
* Certification must be submitted		If "Yes" Unit Packaging wgt. No. per container	If "Yes" Package wgt. No. per container
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container	
5. Location of Label Directions <input type="checkbox"/>		6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled <input type="checkbox"/> Other _____	

## Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)		
Name Jane M. Miller	Title Agent	Telephone No. (Include Area Code) (203) 740-1200
<b>Certification</b> I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.		6. Date Application Received (Stamped)
2. Signature 	3. Title Agent	
4. Typed Name Jane M. Miller	5. Date June 28, 2013	

Due 8/5/13 MFA

**BIOLOGIC CONSULTING, INC.**  
*agribusiness professionals*

June 28, 2013

Document Processing Desk (AMEND)  
Office of Pesticide Programs (7504P)  
US Environmental Protection Agency  
One Potomac Yard  
2777 S. Crystal Drive  
Room S-4900, 4<sup>th</sup> Floor  
Arlington, VA 22202

Attention: Mr. Richard Gebken (PM#10)

Re: "Bifen 25% EC", EPA Reg. No. 83520-4  
**MINOR FORMULATION AMENDMENT PER PR NOTICE 98-10**

Dear Mr. Gebken:

On behalf of Tacoma AG, LLC please find enclosed an Application for Minor Formulation Amendment for the above-mentioned product. This notification is to:

1. Add an alternate CSF #7 which includes 1) alternate producers, and 2) alternate inert ingredients.

As per PR Notice 98-10 this action qualifies as a **Minor Formulation Amendment** for the following reasons:

- A. The nominal concentration of the active ingredient does not change;
- B. This alternate formulation does not have any significant impact on the physical/chemical properties, and therefore does not invalidate any product-specific data submitted in support of the initial registration which would cause additional data to be required;
- C. The proposed alternate inert ingredients are approved by the EPA Inerts Branch;
- D. The alternate formulation will not change the acute toxicity category necessitating label changes.

The following documents are enclosed to process this Minor Formulation Amendment:

1. Application for Pesticide Amendment (8570-1)
2. Formulator's Exemption Statement (8570-27)
3. One (1) copy of the current approved basic and Alternate #A, #1, #2, #3, #4, #5, #6, #1A, #1B, #1C and #3A CSF (8570-4)
4. One (1) copy of the proposed Alternate CSF #7 (8570-4)
5. One (1) MSDS for each of the alternate inerts.

We look forward to receiving approval of this alternate formulation in 45 days. Should you have any questions, or wish to reach me, please feel free to contact our office at 203-740-1200.

Sincerely,

  
Jane M. Miller  
Agent to Tacoma AG, LLC

115 Obtuse Hill Road • Brookfield, CT 06804  
Tel: 203.740.1200 • Fax: 203.740.1220  
Email: [jmiller@biologicconsulting.com](mailto:jmiller@biologicconsulting.com)

## Debesai, Alganesh

---

**From:** Jane Miller [jmiller@biologicconsulting.com]  
**Sent:** Thursday, August 22, 2013 2:33 PM  
**To:** Debesai, Alganesh  
**Subject:** Re: 83520-4 Approved Minor Formulation Amendment CSF.  
**Attachments:** 2013 08 15\_83520-4 Bifen 25% EC\_epa approved minor form amendment\_add producers  
inerts 553 553A.pdf

Dear Mr. Debesai,

I have just received approval for a revised CSF for this product. I had given the new CSF the number of "Alternate Formulation #7". In your letter you have noted that the number is "2". We already have an alternate #2 so this may cause confusion.

Attached is the complete submission with previously approved CSF's.

Best Regards,

*Jane M. Miller*

BIOLOGIC CONSULTING, INC.

115 Obtuse Hill Road  
Brookfield, CT 06804

Tel: 203-740-1200  
Fax: 203-740-1220



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

August 15, 2013

Ms. Jane M. Miller  
Agent to Tacoma AG, LLC  
Biologic, Inc  
115 Obtuse Hill Road  
Brookfield, CT 06804

*Replaced by letter  
dated 8/27/13*

Dear Ms. Miller:

Subject: Minor Formulation Amendment

The Agency is in receipt of your Application for Pesticide Notification under Pesticide Registration Notice (PRN) 98-10 dated 6/28/2013 for **EPA Registration 83520-4**. The Registration Division (RD) has conducted a review of the Confidential Statement of Formula (CSF) submitted with this request for its applicability under PRN 98-10 and finds that the change(s) requested falls within the scope of PRN 98-10. Therefore, Alternate #2 CSF dated 6/28/2013 is **acceptable**. A copy of the CSF has been added to the registration file for the subject product.

*7*

If you have any questions, please contact me via telephone at 703-308-8353 or e-mail (debesai.alganesh@epa.gov).

Sincerely,

*Alganesh Debesai*

Alganesh Debesai  
Inert Ingredient Assessment Branch (IIAB)  
Registration Division (7505P)  
Office of Pesticide Programs





United States  
Environmental Protection Agency  
Washington, DC 20460  
**Formulator's Exemption Statement**  
(40 CFR 152.85)

**Applicant's Name and Address**

Tacoma AG, LLC  
c/o Biologic, Inc.  
115 Obtuse Hill Road  
Brookfield, Ct 06804

**EPA File Symbol/Registration Number**

83520-4

**Product Name**

Bifen 25% EC

**Date of Confidential Statement of Formula (EPA Form 8570-4)**

June 28, 2013

Letter dated 6-28-13

As an authorized representative of the applicant for registration of the product identified above, I certify that:

- (1) This product contains the following active ingredient(s):

Bifenthrin Technical

A. Debesani  
2/15/13

- (2) Of these, each active ingredient listed in paragraph (4) is present solely as the result of the use of that active ingredient in the manufacturing, formulation or repackaging another product which contains that active ingredient which is registered under FIFRA Section 3, is purchased by us from another producer, and is labeled for at least each use for which my product is proposed to be labeled.

- (3) Indicate by checking (A) or (B) below which paragraph applies:

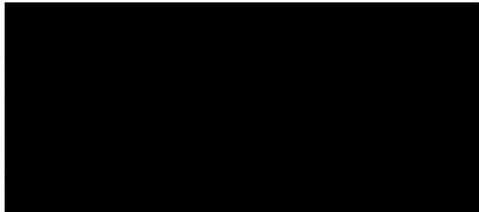
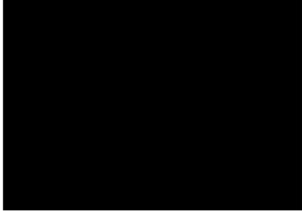
☒ (A) An accurate Confidential Statement of Formula (EPA FORM 8570-4) for the above identified product is attached to this statement. That formula statement indicates, by company name, registration number, and product name, the source of the active ingredient(s) listed in paragraph (1).

OR

☐ (B) The Confidential Statement of Formula (CSF) (EPA Form 8570-4) referenced above and on file with the EPA is complete, current, and accurate and contains the information required on the current CSF.

- (4) The following active ingredients in this product qualify for the formulator's exemption.

**Source**

Active Ingredient	Product Name	Registration Number
Bifenthrin		

\*Product ingredient source information may be entitled to confidential treatment\*

**Signature****Name and Title**

Jane M. Miller, Agent

**Date**

6/28/13

# Material Sent for Data Extraction

Reg. # 83520-41

Description: Accepted MFI-PRN-98-10

☒ Material(s) Sent to Data Extraction Contractors:

☐ New Stamped Label Dated \_\_\_\_\_

☒ Notification Dated 6/28/2013

☒ New CSF(s) Dated 6/28/2013- CCH #7

☐ Other: \_\_\_\_\_

☒ Decision #: 4181521

☐ Other Action/Comments: \_\_\_\_\_  
\_\_\_\_\_

File this coversheet and attached materials in the jacket. It must be well organized and clipped together, NOT STAPLED. Then give the jacket with the coversheet and materials to staff in the Information Services Center (ISC) (Room S-4900). If a jacket is full or only available as an image, please file materials in a new jacket and bring it down to the (ISC). For further information please call 703-605-0716.

Reviewer: Alganesh Debesai

Phone: 308-8353 Division: RD

Date: 9/12/13



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

OFFICE OF CHEMICAL SAFETY AND  
POLLUTION PREVENTION

May 9, 2013

Jane M. Miller  
Tacoma AG, LLC  
c/o Biologic, Inc.  
115 Obtuse Hill Road  
Brookfield, CT 06804

Subject: Notification – Adding Alternate Brand Name  
Bifen 25% EC  
EPA Registration Number: 83520-4  
Date of Submission: April 26, 2013

Dear Ms. Miller:

The Agency is in receipt of your Application for Pesticide Notification under Pesticide Registration (PRN) 98-10 dated April 26, 2013, for the above mentioned product. The Registration Division (RD) has conducted a review of this request for its applicability under PRN 98-10 and finds that the actions requested fall within the scope of PRN 98-10. The label submitted with the application has been stamped "Notification" and will be placed in our records.

If you have any questions regarding this letter, please contact BeWanda Alexander at (703) 305-7460 or e-mail [alexander.bewanda@epa.gov](mailto:alexander.bewanda@epa.gov).

Sincerely,

A handwritten signature in black ink, which appears to read "BeWanda Alexander" followed by a stylized flourish.

Richard Gebken  
Product Manager Team 10  
Insecticide Branch  
Registration Division (7505P)





United States  
Environmental Protection Agency  
Washington, DC 20460

☐ Registration  
☐ Amendment  
☒ Other

OPP Identifier Number

## Application for Pesticide - Section I

1. Company/Product Number 83520-4	2. EPA Product Manager R; Gebken	3. Proposed Classification <input type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Bifen 25% EC	PM# 10	
5. Name and Address of Applicant (Include ZIP Code) Tacoma AG, LLC c/o Biologic, Inc. 115 Obtuse Hill Road Brookfield, CT 06804 <input type="checkbox"/> Check if this is a new address		6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____

## Section - II

<input type="checkbox"/> Amendment - Explain below.	<input checked="" type="checkbox"/> Final printed labels in response to Agency letter dated _____	<b>NOTIFICATION</b>  MAY - 9 2013
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.	
<input checked="" type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.	

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

This is a notification to 1) add the alternate brand name of "Bishop Insecticide"; 2) repurpose text to be optional language; 3) delete redundant language per PR Notice 98-10. This notification is consistent with the provisions of PR Notice 98-10 and the EPA regulations at 40 CFR 152.46 and no other changes have been made to the labeling or the confidential statement of formula of this product. I understand that it is a violation of 18 U.S.C. Sec. 1001 to willfully make any false statement to EPA. I further understand that if this notification is not consistent with the terms of PR Notice 98-10 and 40 CFR 152.46 this product may be in violation of FIFRA and I may be subject to enforcement action and penalties under sections 12 and 14 of FIFRA.

## Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____	
* Certification must be submitted		If "Yes" Unit Packaging wgt.	No. per container	If "Yes" Package wgt	No. per container
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input type="checkbox"/>	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled		<input type="checkbox"/> Other _____			

## Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)		
Name Jane M. Miller	Title Agent	Telephone No. (Include Area Code) (203) 740-1200

## Certification

I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.

2. Signature 	3. Title Agent	6. Date Application Received (Stamped)
4. Typed Name Jane M. Miller	5. Date April 26, 2013	



April 26, 2013

Document Processing Desk (NOTIF)  
Office of Pesticide Programs (7504P)  
US Environmental Protection Agency  
One Potomac Yard  
2777 S. Crystal Drive  
Room S-1900, 4<sup>th</sup> Floor  
Arlington, VA 22202

Attention: Mr. R. Gebken (PM#10)

Re: "Bifen 25% EC"; EPA Reg. No. 83520-4  
Notification to add an Alternate Brand Name

Dear Mr. Gebken:

On behalf of Tacoma AG, LLC please find enclosed this Application for Pesticide Notification to:

1. Add the Alternate Brand Name of "**BISHOP Insecticide**" to the product registration;
2. Repurpose text to be optional language;
3. Delete redundant text on page 36 which does not appear on the other "me-too" labels.

This action fits the definition of a Notification and:


"This notification is consistent with the provisions of PR Notice 98-10 and the EPA regulations at 40 CFR 152.46, and no other changes have been made to the labeling or the confidential statement of formula of this product. I understand that it is a violation of 18 U.S.C. Sec. 1001 to willfully make any false statement to EPA. I further understand that if this notification is not consistent with the terms of PR Notice 98-10 and 40 CFR 152.46, this product may be in violation of FIFRA and may be subject to enforcement action and penalties under sections 12 and 14 of FIFRA."

The following documents are enclosed to process this Notification:

1. Application for Pesticide Notification (8570-1)
2. One (1) copy of the revised label with the alternate brand name noted and deleted text lined out.
3. One (1) CD of the clean labeling in Pdf format

Should you have any questions, or wish to reach me, please feel free to contact our office at 203-740-1200.

Sincerely,

  
Jane M. Miller  
Agent to Tacoma AG, LLC

**RESTRICTED USE PESTICIDE****Toxic to fish and aquatic organisms**

For retail sale to and use only by certified applicators or persons under their direct supervision and only for the uses covered by the certified applicator's certification.

GROUP 3A INSECTICIDE

**BIFEN 25% EC****[alt. brand name: BISHOP INSECTICIDE]****NOTIFICATION****MAY - 9 2013**

Bracketed [] text optional language

[Insecticide/Miticide]

[For use to control listed insects and mites on artichokes, brassicas, caneberries, canola, cilantro, citrus, coriander, corn, cotton, crambe, cucurbits, dried beans and peas, fruiting vegetables, grapes, head lettuce, hops, leafy brassicas, mayhaw, okra, peanuts, pears, rapeseed, root crops, soybeans, spinach, succulent peas and beans, tobacco, and tuberous and corm vegetables.]

[For use to control listed insect pests on Ornamentals and Trees\* (including Field and Container Grown Nursery Stock, Christmas Trees, Interiorscapes and Plantscapes, Lawns, Trees and Shrubs, and on Golf Courses and Sod Farms)

\* Not For Use in California]

[DO NOT APPLY THIS PRODUCT ON GOLF COURSES AND SOD FARMS IN NASSAU OR SUFFOLK COUNTY, NEW YORK]

[<PRODUCT NAME> contains Bifenthrin, the active ingredient used in <BRAND NAME>™ or ®.]

[<PRODUCT NAME> is not manufactured or distributed by <BASIC REGISTRANT /  
BRAND HOLDER>, seller of <BRAND>™ or ®.]

[<BRAND>™ or ® is a trademark of <TRADEMARK HOLDER>.]

**ACTIVE INGREDIENT:****%BY WT.**

Bifenthrin: (2 methyl[1,1 -biphenyl]-3-yl)methyl 3-(2-chloro-3,3,3-trifluoro-1-propenyl)-2,2-dimethyl-cyclopropanecarboxylate* . . . . .	25.0%
OTHER INGREDIENTS**:	75.0%
<b>TOTAL</b> . . . . .	<b>100.0%</b>

\*Cis isomers 97% minimum, trans isomers 3% maximum.

\*\*Contains xylene range aromatic solvents.

This product contains 2 pounds active ingredient per gallon.

**KEEP OUT OF REACH OF CHILDREN****WARNING-AVISO**

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail).

[See [side] [other] [inside label booklet] [panel] for additional precautionary statements.]

EPA Reg. No. 83520-4

EPA Est. No. XXXXX-XX-XXX

Net Contents: \_\_\_\_\_

Manufactured For:  
Tacoma AG, LLC  
P.O. Box 14073  
Durham, NC 27709

Last Stamped Label 03 01 2013

Last approved Notification 04 04 2013

Notification to add alternate brand name 04 26 2013

- 1

## MASTER LABEL

### FIRST AID

Have the product container or label with you when calling a poison control center or doctor or going for treatment. For a medical emergency involving this product call: 1-800-222-1222.

#### IF SWALLOWED:

- Immediately call a poison control center or doctor.
- Do not induce vomiting unless told to do so by a poison control center or doctor.
- Do not give any liquid to the person.
- Do not give anything by mouth to an unconscious person.

#### IF IN EYES:

- Hold eye open and rinse slowly and gently with water for 15-20 minutes.
- Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.
- Call a poison control center or doctor for treatment advice.

#### IF ON SKIN OR CLOTHING:

- Take off contaminated clothing.
- Rinse skin immediately with plenty of water for 15-20 minutes.
- Call a poison control center or doctor for treatment advice.

#### IF INHALED:

- Move person to fresh air.
- If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth if possible.
- Call a poison control center or doctor for further treatment advice.

**NOTE TO PHYSICIAN:** This product is a pyrethroid. If large amounts have been ingested, the stomach and intestines should be evacuated. Treatment is symptomatic and supportive. Digestible fats, oils, or alcohol may increase absorption and should be avoided. This product contains a petroleum distillate. Vomiting may cause aspiration pneumonia.

### PRECAUTIONARY STATEMENTS

#### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

##### WARNING

May be fatal if swallowed. Causes substantial but temporary eye injury. Do not get in eyes or on clothing. Wear protective eyewear (goggles, face shield, or safety glasses). Harmful if inhaled or absorbed through skin. Avoid breathing vapor or spray mist. Avoid contact with skin. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

#### PERSONAL PROTECTIVE EQUIPMENT (PPE)

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for category E on an EPA chemical resistance category selection chart.

##### Handlers who may be exposed to the dilute through application or other tasks must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves, such as barrier laminate, nitrile rubber, neoprene rubber, or viton
- shoes plus socks

##### Handlers who may be exposed to the concentrate through mixing, loading, application, or other tasks must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves, such as barrier laminate, nitrile rubber, neoprene rubber, or viton
- shoes plus socks
- Protective eyewear

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.



## MASTER LABEL

### USER SAFETY RECOMMENDATIONS

#### Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

### ENVIRONMENTAL HAZARDS

This pesticide is extremely toxic to fish and aquatic invertebrates. Use with care when applying in areas adjacent to any body of water. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not make applications when weather conditions favor drift from treated areas. Drift and runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when disposing of equipment washwaters.

This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds while bees are actively visiting the treatment area.

The use of Bifen 25% EC is prohibited in areas that may result in exposure of endangered species to bifenthrin. Prior to use in a particular county contact the local extension service for procedures and precautions to use to protect endangered species.

### PHYSICAL/CHEMICAL HAZARDS

Do not use or store near heat or open flame.

### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

### AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

**Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.**

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- Coveralls
- Chemical-resistant gloves, such as barrier laminate, nitrile rubber, neoprene rubber, or Viton
- Shoes plus socks

### NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standards for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries and greenhouses.

Do not allow people or pets on treated areas until the spray has dried.



## STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal.

**PESTICIDE STORAGE AND SPILL PROCEDURES:** Keep out of reach of children and animals. Store in original containers only, in a cool, dry place and avoid excess heat. Do not freeze. Do not store below 40°F. Carefully open containers. If crystals are observed, warm material to above 60°F by placing container in warm location. Shake or roll container periodically to redissolve solids. After partial use, replace lids and close tightly. Do not put concentrate or dilute material into food or drink containers. Do not contaminate other pesticides, fertilizers, water, food or feed by storage or disposal.

In case of spill, avoid contact, isolate area, and keep out animals and unprotected persons. Confine spills.

**To confine spill:** If liquid, dike surrounding area or absorb with sand, cat litter, or commercial clay. If dry material, cover to prevent dispersal. Place damaged package in a holding container. Identify contents.

**PESTICIDE DISPOSAL:** Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative of the nearest EPA Regional Office for guidance.

**CONTAINER HANDLING: Nonrefillable container.** Do not reuse or refill container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows:

**Containers 5 gallons or less:** Empty the remaining contents into application equipment and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Once cleaned, offer for recycling or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill or by other procedures approved by State and local authorities. Do not cut or weld metal containers.

**Containers larger than 5 gallons:** Empty the remaining contents into application equipment. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Once cleaned, offer for recycling or reconditioning if appropriate. If recycling is not available, puncture or dispose of in a sanitary-landfill or incineration or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

**Refillable Containers:** Return container to point of purchase for reuse with seal intact and in salable condition. Refill this container with Bifen 25% EC [alt. Brand Name] only. Do not reuse this container for any other purpose. Before refilling, inspect thoroughly for damage such as cracks, punctures, bulges, dents, abrasions, and damaged or worn threads on closure devices.

After filling and before transporting, check for leaks. Do not refill or transport damaged or leaking container.

## RESISTANCE MANAGEMENT

Bifen 25% EC [alt. Brand Name] contains a Group 3 Insecticide. With repeated use of Group 3 insecticide as the primary method of control in the same field or in successive years, insect/mite populations can develop resistant biotypes. If this occurs, insect/mite biotypes with acquired resistance to Group 3 insecticides may eventually dominate the insect/mite population. This may result in partial or total loss of control of those species by Bifen 25% EC [alt. Brand Name] or other Group 3 insecticides.

To delay development of insecticide resistance, the following practices are suggested:

- Base insecticide applications on comprehensive IPM programs. This program should include an insect management program that includes cultural and biological control where possible.
- Use good resistance management strategies established for the use area. This may include the use of insecticide rotations or tank mixes with other groups of insecticide and miticides in an IPM program.



## **MASTER LABEL**

- Always apply Bifen 25% EC [alt. Brand Name] at the labeled rates and according to label directions. Do not use less than label rates alone or in tank mixtures unless directed otherwise in supplemental labeling supplied by Tacoma Ag, LLC.
- Monitor treated populations in the field for loss of control. If poor performance cannot be attributed to improper application or extreme weather conditions, a resistant strain may be present. Immediately consult your local Tacoma Ag, LLC representative or agricultural advisor for the best alternative method of control for your area.
- Do not treat seedling plants grown for transplant in greenhouses, shade houses, or field plots.
- Consult your local extension specialist, certified crop advisor, and/or manufacturer for insecticide resistance management and /or IPM guidance for the specific site and resistant pest problems.

### **APPLICATIONS INSTRUCTIONS**

The rate of Bifen 25% EC [alt. Brand Name] applied will vary according to pest pressure and timing of application. Use lower rates under light to moderate infestations and higher rates under heavy insect pressure and for mite control. Arid climates generally require higher rates.

Unless otherwise specified for a specific crop, apply when pest population reaches economic (damaging) threshold and repeat as necessary to maintain control. Thorough coverage is essential to achieve control.

In the COMMENTS section of the label for each crop, the application rate when applied by ground and/or air is listed as an amount of spray per acre. In all cases, this refers to finished spray per acre.

### **CHEMIGATION USE DIRECTIONS**

Apply this product only through sprinkler including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, or hand move irrigation systems. Do not apply this product through any other type of irrigation system.

Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system.

Crop injury, lack of effectiveness, or illegal residues in the crop can result from non-uniform distribution of treated water. Contact your State Agricultural Extension Service specialists, equipment manufacturers, or other experts for consultation on the suitability of the equipment setup to obtain effective control of the target insect pests.

A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise. Failure to cease application during a mechanical stoppage may result in undesirable residues to adjacent area.

The system must contain a functional check valve, vacuum-relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.

The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.

The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.

The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.

The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

*Last Stamped Label 03 01 2013*

*Last approved Notification 04 04 2013*

*Notification to add alternate brand name 04 26 2013*

- 5 -

## MASTER LABEL

Do not apply when wind speed favors drift beyond the area intended for treatment.

For sprinkler irrigation, meter Bifen 25% EC [alt. Brand Name] at a continuous uniform rate during the entire irrigation period. To ensure accurate application over the treated area, apply in sufficient volume of water or other diluent. If non-emulsified oil is used as the diluent, use 1 to 2 pints per acre. Maintain continuous agitation of the pesticide supply tank for the duration of the application period. When chemigation systems are used, 0.5 inch per acre of irrigation water is suggested except that for Low Energy Precision Application (LEPA) irrigation, a minimum of 0.75 inch of water per acre is suggested.

### BUFFER ZONES Vegetative Buffer Strip

Construct and maintain a minimum 10-foot-wide vegetative filter strip of grass or other permanent vegetation between the field edge and down gradient aquatic habitat (such as, but not limited to, lakes, reservoirs, rivers, permanent streams, marshes or natural ponds, estuaries; and commercial fish farm ponds).

Only apply products containing bifenthrin onto fields where a maintained vegetative buffer strip of at least 10 feet exists between the field and down gradient aquatic habitat.

For guidance, refer to the following publication for information on constructing and maintaining effective buffers:

• *Conservation Buffers to Reduce Pesticide Losses*. Natural Resources Conservation Services. USDA, NRCS. 2000. Fort Worth, Texas. 21 pp.

<http://www.in.nrcs.usda.gov/technical/agronomy/newconbuf.pdf>.

### Buffer Zone for Ground Application (ground boom, overhead chemigation, or airblast)

Do not apply within 25 feet of aquatic habitats (such as, but not limited to, lakes, reservoirs, rivers, streams, marshes, natural ponds, estuaries, and commercial fish ponds.)

### Buffer Zone for ULV Aerial Application

Do not apply within 450 feet of aquatic habitats (such as, but not limited to, lakes, reservoirs, rivers, streams, marshes, natural ponds, estuaries, and commercial fish ponds.)

### Buffer Zone for Non-ULV Aerial Application

Do not apply within 150 feet of aquatic habitats (such as, but not limited to, lakes, reservoirs, rivers, streams, marshes, natural ponds, estuaries, and commercial fish ponds.)

## SPRAY DRIFT REQUIREMENTS

### Wind Direction and Speed

Only apply this product if the wind direction favors on-target deposition. Do not apply when wind velocity exceeds 15 mph.

### Temperature Inversions

Do not make aerial or ground applications into temperature inversions.

Inversions are characterized by stable air and increasing temperatures with height above the ground. Mist or fog may indicate the presence of an inversion in humid areas. The applicator may detect the presence of an inversion by producing smoke and observing a smoke layer near the ground surface.

### Droplet size

Use only Medium or coarse spray nozzles (for ground and non-ULV aerial application) according to ASAE (S572) definition for standard nozzles. In conditions of low humidity and high temperatures, applicators should use a coarser droplet size.

### Additional Requirements for Ground Application

Wind speed must be measured adjacent to the application site on the upwind side, immediately prior to application.

For ground boom applications, apply using a nozzle height of no more than 4 feet above the ground or crop canopy.



## MASTER LABEL

For airblast applications, turn off outward-pointing nozzles at row ends and when spraying the outer two rows. To minimize spray loss over the top in orchard applications, spray must be directed into the canopy.

### Additional Requirements for Aerial Application

The spray boom should be mounted on the aircraft as to minimize drift caused by wingtip or rotor vortices. The minimum practical boom length should be used and must not exceed 75% of wing span or 80% rotor diameter.

Flight speed and nozzle orientation must be considered in determining droplet size.

Spray must be released at the lowest height consistent with pest control and flight safety. Do not release spray at a height greater than 10 feet above the crop canopy unless a greater height is required for aircraft safety.

When applications are made with a crosswind, the swath will be displaced downwind. The applicator must compensate for this displacement at the downwind edge of the application area by adjusting the path of the aircraft upwind.

In New York State, this product may not be applied within 100 feet (using ground equipment) to 300 feet (using aerial equipment) of coastal marshes or streams that drain into coastal marshes.

### ROTATIONAL CROPS

If applying to crops for which Bifenthrin tolerances exist, the crops may be rotated at any time. All other crops may be rotated 30 days following the final application of Bifen 25% EC [alt. Brand Name].

### MIXING INSTRUCTIONS

The spray tank must be clean, thoroughly rinsed, and decontaminated before adding either Bifen 25% EC [alt. Brand Name] alone or with tank mix combinations (see **Bifen 25% EC [alt. Brand Name] in Tank Mixtures** section below). If water is used as the carrier, use clean water.

For aerial applications made on brassicas (see **CROPS** section of the label below for full list of approved brassicas), canola, crambe, rapeseed, foliar applications on corn, cucurbits (see **CROPS** section of the label below for full list of approved cucurbits), eggplant, grapes, head lettuce, and succulent peas and beans (see **CROPS** section of the label below for full list of approved succulent peas and beans), 1 to 2 quarts of emulsified oil may be substituted for 1 to 2 quarts of water in the finished spray. For aerial applications made on cotton, 1 quart of emulsified oil may be substituted for one quart of water in the finished spray. Thorough coverage is essential to achieve control.

**Bifen 25% EC [alt. Brand Name] Used Alone:** When Bifen 25% EC [alt. Brand Name] is used alone, add the labeled amount to the spray tank when the tank is half filled with water or other carrier; then add the rest of the water or other carrier (as permitted on this label). Provide sufficient agitation during mixing and application to maintain a uniform emulsion.

**Bifen 25% EC [alt. Brand Name] with Fertilizer:** Fill the spray tank approximately one-half full with water and/or liquid fertilizer, add the proper amount of Bifen 25% EC [alt. Brand Name], and then add the rest of the water and/or fertilizer. Provide sufficient agitation during mixing and application to maintain a uniform spray mixture.

Perform a jar compatibility test with the appropriate ratio of Bifen 25% EC [alt. Brand Name] and fertilizer to ensure the mixture will stay in solution. Maintain constant agitation during mixing and application.

**Bifen 25% EC [alt. Brand Name] in Tank Mixtures:** If a tank mixture is used, perform a compatibility test before actual tank mixing. Test all untried mixtures using proper ratios and mixing sequences of all ingredients to be included in the mixture. Once compatibility is confirmed for the tank mix, fill the tank half full with water or other carrier. Start and continue agitation throughout mixing following conventional mixing order practices. Bifen 25% EC [alt. Brand Name] may be applied in tank mixtures with other products approved for use on registered crops. Observe all restrictions and precautions which appear on the labels of these products.

# MASTER LABEL

## FOOD CROPS USE INSTRUCTIONS

### ARTICHOKE

PEST	DOSAGE		APPLICATION INSTRUCTIONS
	LB AI/A	FL OZ/A	
Artichoke Plume Moth Cribate Weevil	0.10	6.4	<p>Repeat as necessary to maintain control, but not apply more often than 15 day intervals.</p> <p><b>Ground Application:</b> Apply in water in a minimum of 75 gallons per acre as a full cover spray.</p> <p><b>Air Application:</b> Apply in water in a minimum of 10 gallons per acre.</p>
<b>RESTRICTIONS:</b> <ul style="list-style-type: none"> <li>Do not apply more than 0.5 lb. active ingredient (32 ounces formulated) per acre per season.</li> <li>Do not apply within 5 days of harvest (PHI).</li> </ul>			

### BRASSICAS

CROP	PEST	DOSAGE		APPLICATION INSTRUCTIONS
		LB AI/A	FL OZ/A	
Head and Stem Brassica Vegetables including: Broccoli Chinese Broccoli (gai lan, white flowering broccoli) Brussels Sprouts Cauliflower Cavalo Broccoli Kohlrabi Cabbage Chinese Cabbage (napa) Chinese Mustard Cabbage (gai choy)	Aphids Armyworms Corn Earworm Crickets Cucumber Beetle Cutworms Diamondback Moth Flea Beetle Ground Beetles Imported Cabbageworm Leafhoppers Loopers Saltmarsh Caterpillar Stink Bugs Thrips Tobacco Budworm Whitefly Wireworm (Adults)	0.033-0.10	2.1-6.4	<p><b>Ground Application:</b> Apply in water in a minimum of 10 gallons per acre.</p> <p><b>Air Application:</b> Apply in water in a minimum of 2 gallons per acre. Emulsified oil may be substituted for water.</p> <p>See section entitled <b>MIXING INSTRUCTIONS</b> for details on the amount of oil to use in the spray tank in lieu of water.</p> <p>Repeat applications if needed to maintain control, but do not make applications less than 7 days apart.</p>
	Banks Grass Mite Carmine Mite Lygus Spp. Pacific Spider Mite Twospotted Spider Mite	0.08-0.10	5.12-6.4	
<b>RESTRICTIONS:</b> <ul style="list-style-type: none"> <li>Do not apply more than 0.5 lb active ingredient (32 ounces formulated) per acre per season.</li> <li>Do not make more than 5 applications after bloom.</li> <li>Do not apply within 7 days of harvest (PHI).</li> </ul>				

Last Stamped Label 03/01/2013

Last approved Notification 04/04/2013

Notification to add alternate brand name 04/26/2013

- 8 -



## MASTER LABEL

### CANE BERRIES

CROP	PEST	DOSAGE		APPLICATION INSTRUCTIONS
		LB AI/A	FL OZ/A	
Caneberries including: Blackberries Bingleberries Dewberries Loganberries Lowberries Marionberries Ollieberries Raspberries Youngberries	Leafrollers Orange Tortrix Root Weevils	0.05-0.10	3.2-6.4	Apply by air or ground equipment using sufficient water to obtain full coverage of foliage (minimum of 10 gallons per acre by air and 50 gallons per acre by ground).  <b>Ground Application:</b> Apply in water in a minimum of 50 gallons per acre.  <b>Air Application:</b> Apply in water in a minimum of 10 gallons per acre.  A total of two applications may be made.  One application may be made pre-bloom and a second application may be made post bloom.
	Spider Mites	0.10	6.4	
<b>RESTRICTIONS:</b>				
<ul style="list-style-type: none"> <li>Do not apply more than 0.2 lb. active ingredient (12.8 ounces formulated) per acre per season.</li> <li>Do not apply within 3 days of harvest (PHI).</li> </ul>				

### CANOLA, CRAMBE, RAPESEED

PEST	DOSAGE		APPLICATION INSTRUCTIONS
	LB AI/A	FL OZ/A	
Aphids Armyworms Cutworms Diamondback Moth Flea Beetles Flea Hoppers Grasshoppers Loopers Lygus Bugs Other Lepidopterous Larvae Plant Bugs Seedpod Weevil Stink Bugs Thrips Whitefly	0.033-0.04	2.1-2.6	<b>Ground Application:</b> Apply in water in a minimum of 10 gallons per acre.  <b>Air Application:</b> Apply in water in a minimum of 2 gallons per acre. Emulsified oil may be substituted for water.  See section entitled <b>MIXING INSTRUCTIONS</b> for details on the amount of oil to use in the spray tank in lieu of water.  Repeat applications if needed to maintain control, but do not make applications less than 14 days apart.
<b>RESTRICTIONS:</b>			
<ul style="list-style-type: none"> <li>Do not apply more than 0.08 lb. active ingredient (5.12 ounces formulated) per acre per season.</li> <li>Do not apply within 35 days of harvest (PHI).</li> </ul>			

## MASTER LABEL

### CHRISTMAS TREES (For use only in Washington and Oregon)

PEST	DOSAGE		APPLICATION INSTRUCTIONS
	LB AI/A	FL OZ/A	
Root Weevil Spruce Spider Mite	0.06-0.10	3.9-6.4	<p><b>Ground Application:</b> Apply in water in a minimum of 20 gallons per acre.</p> <p><b>Air Application:</b> Apply in water in a minimum of 5 gallons per acre.</p> <p>Bifen 25% EC [alt. Brand Name] is usually not phytotoxic to Christmas trees. However, make applications to a small representative group of plants to ensure that a particular variety grown under current conditions is not unusually sensitive to Bifen 25% EC [alt. Brand Name].</p> <p>Maintain a minimum of 21 days between applications.</p>
<b>RESTRICTIONS:</b> <ul style="list-style-type: none"> <li>Do not apply more than 0.1 lb. active ingredient (6.4 ounces formulated) per acre per season.</li> <li>Do not make more than 3 applications in a crop year.</li> <li>Do not make applications through irrigation systems.</li> </ul>			

### CILANTRO, CORIANDER

PEST	DOSAGE		APPLICATION INSTRUCTIONS
	LB AI/A	FL OZ/A	
Aphids Beet Armyworm Cabbage Looper Cutworm Flea Beetle Grasshoppers Leafminer Saltmarsh caterpillar Spotted Cucumber Beetle Thrips Whitefly	0.033-0.10	2.1-6.4	<p><b>Ground Application:</b> Apply in water in a minimum of 10 gallons per acre.</p> <p><b>Air Application:</b> Apply in water in a minimum of 2 gallons per acre.</p> <p>Apply in sufficient water to obtain thorough coverage.</p>
Two Spotted Spider Mite	0.08-0.10	5.12-6.4	
<b>RESTRICTIONS:</b> <ul style="list-style-type: none"> <li>Do not apply more than 0.5 lb. active ingredient (32 ounces formulated) per acre per season.</li> <li>Do not make applications less than 7 days apart.</li> <li>Do not apply within 3 days of harvest (PHI).</li> </ul>			

# MASTER LABEL

## CITRUS (Except Florida)\*

PEST	DOSAGE		APPLICATION INSTRUCTIONS
	LB A/A	FL OZ/A	
Asian Cockroach Diaprepes Root Weevil ( <i>Diaprepes abbreviatus</i> ), Fire Ants	0.25 – 0.50	16-32	<p><b>Ground Application:</b> Apply in water in a minimum of 30 gallons per acre.</p> <p>Use a handgun or shielded sprayer to apply to individual citrus trees if they are not planted in solid rows.</p> <p>Diaprepes root weevil emergence generally occurs in the spring, but weather conditions can prompt a second emergence in the fall. In areas where only a spring emergence is expected, use 32 ounces of Bifen 25% EC [alt. Brand Name]. In areas where a second emergence is expected, use 16 ounces of Bifen 25% EC [alt. Brand Name] in the early season and 16 ounces of Bifen 25% EC [alt. Brand Name] later in the season.</p> <p>If the length of control of Bifen 25% EC [alt. Brand Name] is not sufficient to cover the emergence of the root weevil, use other pest control measures from State Agricultural Extension Specialists or other local experts.</p> <p>*Use in California not permitted unless accompanied by a supplemental label</p>
<b>RESTRICTIONS:</b> <ul style="list-style-type: none"> <li>Do not apply through irrigation systems.</li> <li>Do not allow any application of Bifen 25% EC [alt. Brand Name] to contact fruit or foliage.</li> <li>Do not apply more than 0.5 lb. active ingredient (32 ounces formulated) per acre per year.</li> <li>Do not apply by air.</li> <li>Do not apply within 1 day of harvest (PHI).</li> </ul>			



# MASTER LABEL

## CITRUS (Florida only)

PEST	DOSAGE		APPLICATION INSTRUCTIONS
	LB A/A	FL OZ/A	
Blue Green Citrus Root Weevil ( <i>Pachnaeus opalus</i> ) Brown Leaf Notcher ( <i>Epicaerus mexicanus</i> ) Diaprepes Root Weevil ( <i>Diaprepes abbreviatus</i> ) Little Leaf Notcher ( <i>Artipus floridanus</i> ) Southern Blue Green Citrus Root Weevil ( <i>Pachnaeus litus</i> )	0.25-0.50	16-32	<p><b>Ground Application:</b> Apply in water in a minimum of 40 gallons per acre.</p> <p>Greater spray volumes increase uniformity of coverage. Also coverage uniformity may be aided by using a pre-and post-irrigation application.</p> <p>Use a handgun or shielded sprayer to apply to individual citrus trees if they are not planted in solid rows.</p> <p>All citrus root weevils have a similar life cycle. They have three immature stages: egg, larva, and pupa. Adult weevils emerge from the soil and lay eggs on host plants above ground, the larvae enter the soil to feed on roots, and the pupae and teneral adult stages are spent below ground. Adults emerge beneath citrus trees throughout the year; it is at this time that Bifen 25% EC [alt. Brand Name] applications should be timed. Peak adult emergence varies within and among species and by region. Peak emergence for the blue-green root weevil is normally April and May. Diaprepes adult emergence from the soil appears to be triggered by the onset of regular rainfall events and can have two emergence peaks, in mid-May to mid-July and/or late-August to mid-October. The second peak is variable and may relate to host plant availability. Little leaf notcher has three generations per year. Although there is considerable overlap of generations, adults appear most abundant in April/May, July/August, and October/November.</p> <p>For best control of emerging root weevils, apply Bifen 25% EC [alt. Brand Name] to the soil beneath the citrus trees from the trunk to the drip line of the tree.</p> <p>Bifen 25% EC [alt. Brand Name] protects citrus tree roots from citrus root weevils by forming a barrier which provides contact activity on neonate larvae when they fall to the ground shortly after hatching from eggs which were oviposited in the citrus tree foliage.</p> <p>Once application is made, be careful not to disturb the treated soil.</p> <p>In areas where only a spring emergence is expected, use 32 ounces of Bifen 25% EC [alt. Brand Name]. In areas where a second emergence is expected, use 16 ounces of Bifen 25% EC [alt. Brand Name] in the early season and 16 ounces of Bifen 25% EC [alt. Brand Name] later in the season.</p> <p>If the length of control of Bifen 25% EC [alt. Brand Name] is not sufficient to cover the emergence of the root weevil, use other pest control measures from State Agricultural Extension Specialists or other local experts.</p>
Asian Cockroach, Fire Ants	0.1-0.25	6.4-16	

### RESTRICTIONS:

- Do not apply through irrigation systems.
- Do not allow any application of Bifen 25% EC [alt. Brand Name] to contact fruit or foliage.
- Do not apply more than 0.5 lb. active ingredient (32 ounces formulated) per acre per year.
- Do not apply by air.
- Do not apply within 1 day of harvest (PHI).

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Notification to add alternate brand name 04/26/2013

- 12



# MASTER LABEL

## CONIFER SEED ORCHARDS

(For Use Only in Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, Oklahoma, South Carolina, Tennessee, Texas, Virginia)

PEST	DOSAGE		APPLICATION INSTRUCTIONS
	LB AI/A	FL OZ/A	
Cone Worms Seed Bugs Seed Worms	0.1-0.2	6.4-12.8	<p><b>Ground Application:</b> Apply in water in a minimum of 100-500 gallons per acre</p> <p><b>Air Application:</b> Apply in water in a minimum of 10 gallons per acre or 0.5 gallon refined vegetable oil per acre.</p> <p>Apply in sufficient water to obtain thorough coverage.</p> <p>Begin applications 7 days after peak pollen flight and continue on 30-day intervals up to a maximum of 0.6 lb. active per acre per season.</p>
<b>RESTRICTIONS:</b> <ul style="list-style-type: none"> <li>Do not make more than six applications per season or apply more than 0.6 lb. active ingredient (38.4 ounces formulated) per acre per season.</li> </ul>			

## CORN: FIELD CORN (GRAIN AND SILAGE), POPCORN, FIELD CORN GROWN FOR SEED (AT PLANTING)

PEST	DOSAGE		APPLICATION INSTRUCTIONS	
Corn Rootworm Larvae Northern Southern Western	0.0046 pound active per 1000 linear feet of row	0.30 fluid ounces per 1000 linear feet of row	<b>Ground Application:</b> Apply in water in a minimum of 3 gallons per acre.  For use on corn at planting, apply a 5- inch to 7 inch T-band over the open seed furrow.	
Army Cutworm Cutworm Species Grubs Seedcorn Beetle Seedcorn Maggot True Armyworm or Armyworm Species Wireworms	0.0023 to 0.0046 pound active per 1000 linear feet of row	0.15 to 0.30 fluid ounces per 1000 linear feet of row	Center the spray nozzle over the row behind the planter shoe in front of the press wheel.  In-furrow pop-up fertilizers may be used alone or in tank mixtures with Bifen 25% EC [alt. Brand Name]. See the section entitled <b>MIXING INSTRUCTIONS, Bifen 25% EC [alt. Brand Name] with Fertilizer</b> for additional instructions and precautions when mixing with fertilizers.	
<b>RESTRICTIONS:</b> <ul style="list-style-type: none"><li>Do not apply to soil where there is greater than 30% cover of crop residue remaining.</li><li>Do not graze livestock in treated area or cut treated crops for feed within 30 days of treatment.</li><li>Do not apply more than 0.1 lb. active ingredient (6.4 ounces formulated) per acre per season as an at plant application.</li><li>Do not apply within 30 days of harvest (PHI).</li></ul>				
<b>Row Spacings (inches)<sup>1</sup></b>	<b>40</b>	<b>38</b>	<b>36</b>	<b>30</b>
BIFEN 25% EC [ALT. BRAND NAME] (pounds ai per acre)	0.060	0.064	0.069	0.080
BIFEN 25% EC [ALT. BRAND NAME] (formulated ounces per acre)	3.9	4.1	4.4	5.12

<sup>1</sup>Use this table to determine the Bifen 25% EC [alt. Brand Name] needs per acre.

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- 13 -

# MASTER LABEL

## CORN: FIELD CORN (GRAIN AND SILAGE), POPCORN, FIELD CORN GROWN FOR SEED (PRE & PPI)

PEST	DOSAGE		APPLICATION INSTRUCTIONS
	LB AI/A	FL OZ/A	
Armyworm spp. Black Cutworm Seedcorn Maggot Stalkborer White Grub Wireworm	0.047 to 0.062 Pre-Plant Incorporated (PPI)	3 to 4 Pre-Plant Incorporated (PPI)	Ground Application: Apply in water in a minimum of 3 gallons per acre.  Use the labeled dosage as a preplant incorporated treatment either alone or in tank mix combination with registered preplant incorporated herbicides.
Black Cutworm Armyworm spp. Stalkborer	0.040 lb/ai per acre Pre- emergence (PRE)	2.56 fl. oz. per acre Pre- emergence (PRE)	Incorporate Bifen 25% EC [alt. Brand Name] to the intended planting depth, but no deeper than 3 inches.  The 3 to 4 oz. rate must be applied as PPI and can be tank mixed and applied with PPI herbicides.  The 2.56 oz. rate may be applied PRE and can be tank mixed and applied with PRE herbicides.

## CORN: FIELD CORN (GRAIN AND SILAGE), POPCORN, FIELD CORN GROWN FOR SEED (FOLIAR)

PEST	DOSAGE		APPLICATION INSTRUCTIONS
	LB AI/A	FL OZ/A	
Aphids Army Cutworm Beet Armyworm Cereal Leaf Beetle Chinch Bug Common Stalk Borer Corn Earworm Corn Rootworm Adult Cucumber Beetle Adult Cutworm Species European Corn Borer Fall Armyworm Flea Beetle Grasshoppers Greenbug Japanese Beetle Adult Sap Beetle Southern Armyworm Southern Corn Leaf Beetle Southwestern Corn Borer Stink Bugs Tarnished Plant Bug True Armyworm or Armyworm Species Webworms Western Bean Cutworm Yellowstriped Armyworm	0.033-0.10	2.1-6.4	Ground Application: Apply in water in a minimum of 10 gallons per acre except see specific comment below for TX, NM, OK, and AZ mite control.  Air Application: Apply in water in a minimum of 2 to 5 gallons per acre except see specific comment below for TX, NM, OK, and AZ mite control.  In all states, insect control will be improved by increasing the finished spray per acre to 5 gallons.  In Texas, New Mexico, Oklahoma, and Arizona, use a minimum of 10 gallons of water per acre by ground and 5 gallons of water per acre by air when making applications to control mites.  Emulsified oil may be substituted for water. See section entitled <b>MIXING INSTRUCTIONS</b> for details on the amount of oil to use in the spray tank in lieu of water.  Make applications of Bifen 25% EC [alt. Brand Name] as necessary to maintain control being careful not to exceed reapplication intervals or maximum dosage rates specified in this section.  For pests which attack the ear, apply just before silking. For corn borer control, make application just before or at egg hatch.  For mite control, apply when colonies first form prior to leaf damage and before they disperse into the canopy (for Banks Grass Mite-before dispersal into the upper 2/3 of the plant).  Use higher rates of Bifen 25% EC [alt. Brand Name] when pest pressure is severe or crop is under stress from drought and/or heat.
Banks Grass Mite Carmine Mite Twospotted Spider Mite	0.08-0.10	5.12-6.4	When these conditions exist, tank mixtures with dimethoate have shown good control.

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Notification to add alternate brand name 04/26/2013

- 14 -



## MASTER LABEL

			<p>Apply for <b>Banks Grass Mite</b> control when colonies first form prior to leaf damage or discoloration and before dispersal above the bottom third of the plant.</p> <p>For <b>Twospotted Spider Mite</b> and <b>Carmine Mite</b> control, apply when colonies first form prior to leaf damage or discoloration and before widespread mite dispersal throughout the canopy. Higher rates will be necessary for heavier initial populations and corn under heat or drought stress. Field experience with dimethoate at 0.5 lb. active per acre in tank mixture has demonstrated good control under these conditions.</p> <p>For <b>Mite Control In Texas, New Mexico, Oklahoma, and Arizona:</b> Apply in a minimum of 5 gallons of finished spray per acre by aircraft or in a minimum of 10 gallons per acre with ground equipment.</p>
<b>Restrictions:</b> <ul style="list-style-type: none"> <li>Do not apply more than 0.3 lb. active ingredient (19.2 ounces formulated) per acre per season including PRE and PPI, at-planting, plus foliar applications.</li> <li>Do not graze livestock in treated areas or cut treated crops for feed within 30 days of the last application.</li> <li>Use of ultra low volume (ULV) application on corn is prohibited.</li> <li>Do not make aerial or ground applications to corn if heavy rainfall is imminent.</li> <li>Do not apply within 30 days of harvest (PHI).</li> </ul>			

### CORN: SWEET CORN, SWEET CORN GROWN FOR SEED (AT PLANTING)

PEST	DOSAGE		APPLICATION INSTRUCTIONS	
Corn Rootworm Larvae Northern Southern Western	0.0046 pound active per 1,000 linear feet of row	0.30 fluid ounces per 1,000 linear feet of row	<b>Ground Application:</b> Apply in water in a minimum of 3 gallons per acre.  For use on corn at planting, apply in a 5- inch to 7-inch T-band over the open seed furrow. Center the spray nozzle over the row behind the planter shoe in front of the press wheel.	
Army Cutworm Cutworm Species Grubs Seedcorn Beetle Seedcorn Maggot True Armyworm or Armyworm Species Wireworms	0.0023 to 0.0046 pound active per 1,000 linear feet of row	0.15 to 0.30 fluid ounces per 1,000 linear feet of row	In-furrow pop-up fertilizers may be used alone or in tank mixtures with Bifen 25% EC [alt. Brand Name]. See the section entitled <b>MIXING INSTRUCTIONS, Bifen 25% EC [alt. Brand Name] with Fertilizer</b> for additional instructions and precautions when mixing with fertilizers.	
<b>RESTRICTIONS:</b> <ul style="list-style-type: none"><li>Do not apply to soil where there is greater than 30% cover of crop residue remaining.</li><li>Do not graze livestock in treated area or cut treated crops for feed within 30 days of treatment.</li><li>Do not apply more than 0.1 lb. active ingredient (6.4 ounces formulated) per acre per season as an at plant application.</li><li>Do not apply within 30 days of harvest (PHI).</li></ul>				
<b>Row Spacings (Inches) <sup>1</sup></b>	<b>40</b>	<b>38</b>	<b>36</b>	<b>30</b>
BIFEN 25% EC [ALT. BRAND NAME] (pounds ai per acre)	0.060	0.064	0.069	0.080
BIFEN 25% EC [ALT. BRAND NAME] (formulated ounces per acre)	3.9	4.1	4.4	5.12

<sup>1</sup>Use this table to determine the Bifen 25% EC [alt. Brand Name] needs per acre.

# MASTER LABEL

## CORN: SWEET CORN, SWEET CORN GROWN FOR SEED (FOLIAR)

PEST	DOSAGE		APPLICATION INSTRUCTIONS
	LB AI/A	FL OZ/A	
Aphids Army Cutworm Beet Armyworm Cereal Leaf Beetle Chinch Bug Common Stalk Borer Corn Earworm Corn Rootworm Adult Cucumber Beetle Adult Cutworm Species European Corn Borer Fall Armyworm Flea Beetle Grasshoppers Greenbugs Japanese Beetle Adult Sap Beetle Southern Armyworm Southern Corn Leaf Beetle Southwestern Corn Borer Stink Bugs Tarnished Plant Bug True Armyworm or Armyworm Species Webworms Western Bean Cutworm Yellowstriped Armyworm	0.033-0.10	2.1-6.4	<p><b>Ground Application:</b> Apply in water in a minimum of 10 gallons per acre.</p> <p><b>Air Application:</b> Apply in water in a minimum of 2 gallons per acre. Emulsified oil may be substituted for water.</p> <p>See section entitled <b>MIXING INSTRUCTIONS</b> for details on the amount of oil to use in the spray tank in lieu of water. Make applications of Bifen 25% EC [alt. Brand Name] as necessary to maintain control being careful not to exceed reapplication intervals or maximum dosage rates specified in this section.</p> <p>For pests which attack the ear, apply just before silking. For corn borer control, make application just before or at egg hatch.</p> <p>For mite control, apply when colonies first form prior to leaf damage and before they disperse into the canopy (for Banks Grass Mite - before dispersal into the upper 2/3 of the plant). Use higher rates of Bifen 25% EC [alt. Brand Name] when pest pressure is severe or crop is under stress from drought and/or heat. When these conditions exist, tank mixtures with dimethoate have shown acceptable control.</p>
Banks Grass Mite Carmin Mite Twospotted Spider Mite	0.08-0.10	5.12-6.4	
<b>RESTRICTIONS:</b> <ul style="list-style-type: none"><li>Do not apply more than 0.2 lb. active ingredient (12.8 ounces formulated) per acre per season.</li><li>Do not graze livestock in treated areas or cut treated crops for feed within 1 day of the last application.</li><li>Use of ultra low volume (ULV) application on corn is prohibited.</li><li>Do not make aerial or ground applications to corn if heavy rainfall is imminent.</li><li>Do not apply within 1 day of harvest (PHI).</li></ul>			



# MASTER LABEL

## COTTON

PEST	DOSAGE		APPLICATION INSTRUCTIONS
	LB A/A	FL OZ/A	
European Corn Borer Soybean (Banded) Thrips Tobacco Thrips	0.02-0.10	1.3-6.4	<b>Ground Application:</b> Apply in water in a minimum of 5 gallons per acre.
Boll Weevil Bollworm Cabbage Looper Cotton Aphid Cotton Fleahopper Cotton Leafperforator Cutworms Fall Armyworm Plant Bugs Saltmarsh Caterpillar Southern Garden Leafhopper Stink Bugs Tobacco Budworm Whitefly Yellowstriped Armyworm	0.04-0.10	2.6-6.4	<p><b>Air Application:</b> Apply in water in a minimum of 1 gallon per acre. Emulsified oil may be substituted for water.</p> <p>See section entitled <b>MIXING INSTRUCTIONS</b> for details on the amount of oil to use in the spray tank in lieu of water.</p> <p><b>ULV Application:</b> Apply in a minimum of 1 quart per acre using refined vegetable oil with aircraft calibrated to give adequate coverage.</p> <p>Make applications of Bifen 25% EC [alt. Brand Name] as necessary to maintain control being careful not to exceed reapplication intervals or maximum dosage rates specified in this section.</p>
Beet Armyworm Carmine Spider Mite Lygus spp. Pink Bollworm Twospotted Spider Mite	0.06-0.10	3.8-6.4	<p><b>To Control Boll Weevil:</b> Apply Bifen 25% EC [alt. Brand Name] at 3- to 4- day intervals until pest populations are reduced below economic threshold levels.</p> <p><b>To Control Mites and Aphids:</b> Apply when pests first appear. Repeat as necessary to maintain control without exceeding maximum application rates and reapplication intervals. Use higher rates when an economic threshold has been established.</p>
<b>RESTRICTIONS:</b> <ul style="list-style-type: none"> <li>Do not apply more than 0.5 lb. active ingredient (32 ounces formulated) per acre per season.</li> <li>Do not graze livestock in treated areas or cut treated crops for feed.</li> <li>Do not make more than 10 synthetic pyrethroid applications (of one product or combination of products) to a cotton crop in one growing season. Synthetic pyrethroid products include Ambush<sup>®</sup>, Ammo<sup>®</sup>, Asana<sup>®</sup> XL, Baythroid<sup>®</sup>, Capture<sup>®</sup>, Danitol<sup>®</sup>, Karate<sup>®</sup>, Mustang<sup>®</sup>, and Scout X-TRA<sup>®</sup>.</li> <li>Do not apply within 14 days of harvest (PHI).</li> </ul>			

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- 17 -

# MASTER LABEL

## CUCURBITS

CROP	PEST	DOSAGE		APPLICATION INSTRUCTIONS
		LB AI/A	FL OZ/A	
Chayote (fruit)	Aphids	0.04-0.10	2.6-6.4	<b>Ground Application:</b> Apply in water in a minimum of 20 gallons per acre.  <b>Air Application:</b> Apply in water in a minimum of 5 gallons per acre. Emulsified oil may be substituted for water.  See section entitled <b>MIXING INSTRUCTIONS</b> for details on the amount of oil to use in the spray tank in lieu of water.
Chinese waxgourd (Chinese preserving melon)	Armyworms			
Citron Melon	Cabbage Looper			
Cucumber	Corn Earworm			
Gherkin	Cucumber			
Edible Gourd,	Beetles			
[(includes hyotan, cucuzza),	Cutworms			
<i>Luffa</i> spp. (includes hechima,	Grasshoppers			
Chinese okra),	Leafhoppers			
<i>Momordica</i> spp.	Melonworms			
(includes balsam apple,	Pickleworms			
balsam pear, bitter melon,	Rindworms			
Chinese cucumber)]	Squash Bugs			
Muskmelon (hybrids and/or	Squash Vine			
cultivars of <i>Cucumis melo</i> )	Borer			
(includes true cantaloupe,	Stink Bugs			
cantaloupe, casaba,	Tobacco			
crenshaw melon, golden	Budworm			
pershaw melon,	Whitefly	0.08-0.10	5.12-6.4	
honeydew melon,	Banks Grass Mite			
honey balls, mango melon,	Twospotted			
Persian melon, pineapple	Spider Mite			
melon, Santa Claus melon,	Carmine Mite			
and snake melon)	Lygus spp.			
Pumpkin ( <i>Cucurbita</i> spp.)				
Squash, summer (includes				
crookneck squash, scallop				
squash, straightneck				
squash, vegetable marrow,				
zucchini),				
Squash, winter				
(includes butternut squash,				
calabaza, hubbard squash				
( <i>C. mixta</i> ; <i>C. pepo</i> ) includes				
acorn squash, spaghetti				
squash)				
Watermelon				
(includes hybrids and/				
or varieties of <i>Citrullus</i>				
spp.)				
<b>RESTRICTIONS;</b>				
<ul style="list-style-type: none"><li>Do not apply more than 0.3 lb. active ingredient (19.2 ounces formulated) per acre per season.</li><li>Do not make more than two applications after bloom.</li><li>Repeat applications if needed to maintain control, but do not make applications less than 7 days apart.</li><li>Do not apply within 3 days of harvest (PHI).</li></ul>				

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- 18

# MASTER LABEL

## DRIED BEANS AND PEAS

CROP	PEST	DOSAGE		APPLICATION INSTRUCTIONS
		LB AI/A	FL OZ/A	
Dried cultivars of Bean ( <i>Lupinus spp.</i> ) Grain Lupin Sweet Lupin White Lupin White Sweet Lupin Bean ( <i>Phaseolus spp.</i> ) Field Bean Kidney Bean Lima Bean (dry) Navy Bean Pinto Bean Tepary Bean Bean ( <i>Vigna spp.</i> ) Adzuki Bean Blackeyed Pea Catjang Cowpea Crowder Pea Moth Bean Mung Bean Rice Bean Southern Pea Urd Bean Broad bean (dry) Chickpeas Guar Lablab Bean Lentils Pea ( <i>Pisum spp.</i> ) Field Pea Pigeon Pea	Banks Grass Mite Twospotted Spider Mite Carmine Mite <i>Lygus spp.</i> Aster Leafhopper Flea Beetle Grasshoppers Leafhoppers Aphids Beet Armyworm Fall Armyworm Southern Armyworm Yellowstriped Armyworm Bean Leaf Beetle Cucumber Beetles Japanese Beetle Adult Sap Beetle Plant Bug Stink Bugs Tarnished Plant Bug Alfalfa Caterpillar Cloverworm European Corn Borer Cutworms Western Bean Cutworm Corn Earworm Loopers Corn Rootworm Adults Thrips Webworms Pea Weevil Pea Leaf Weevil Whitefly Imported Cabbageworm Saltmarsh Caterpillar Tobacco Budworm Leafminer	0.08 to 0.10     0.025 to 0.10    0.033 to 0.10	5.12 to 6.4    1.6 to 6.4    2.1 to 6.4	Ground Application: Apply in water in a minimum of 10 gallons per acre.  Air Application: Apply in water in a minimum of 2 gallons per acre.  Emulsified oil may be substituted for water. See section entitled <b>MIXING INSTRUCTIONS</b> for details on the amount of oil to use in the spray tank in lieu of water.  Thorough coverage is essential to achieve control.

### RESTRICTIONS:

- Do not apply more than 0.2 lb. active ingredient (12.8 ounces formulated) to peas.
- Do not make applications less than 7 days apart.
- Do not apply within 14 days of harvest (PHI).



# MASTER LABEL

## FRUITING VEGETABLES

CROP	PEST	DOSAGE		APPLICATION INSTRUCTIONS
		LB AI/A	FL OZ/A	
Eggplant Groundcherry Pepino Pepper (Bell & Non-Bell)	Armyworms (including Beet Armyworm, Fall Armyworm, Southern Yellowstriped Armyworm) Cabbage Loopers Colorado Potato Beetle Corn Earworm Cucumber Beetles European Corn Borer Flea Beetles Leafminers Loopers Pepper weevil Plant Bugs Stink Bugs Thrips Tomato Hornworm Tomato Pinworm Vegetable Leafminer Whitefly	0.033 to 0.10	2.1 to 6.4	<b>Ground Application:</b> Apply in water in a minimum of 10 gallons per acre.  <b>Air Application:</b> Apply in water in a minimum of 2 gallons per acre.  Emulsified oil may be substituted for water. See section entitled <b>MIXING INSTRUCTIONS</b> for details on the amount of oil to use in the spray tank in lieu of water.
	Banks Grass Mite Broad Mite Carmine Mite <i>Lygus</i> spp Pacific Spider Mite Twospotted Spider Mite	0.08 to 0.10	5.12 to 6.4	

### RESTRICTIONS:

- To maintain a proper spray interval, do not make applications less than 7 days apart.
- Do not apply more than 0.2 lb. active ingredient (12.8 ounces formulated) per acre per season.
- Do not apply within 7 days of harvest (PHI).

Tomatoes Tomatillo	Aphids Armyworms (including Beet Armyworm, Fall Armyworm, Southern Yellowstriped Armyworm) Bean Leaf Beetle Cabbageworms Carmine Mite Cloverworm Corn Earworm Corn Rootworm Cucumber Beetle Cutworms Diamondback Moth European Corn Borer Flea Beetles Flea Hoppers Grasshoppers Japanese Beetle (Adult) Leafhoppers Loopers <i>Lygus</i> spp. Melonworms Pea Weevil Pea Leaf Weevil	0.033 to 0.08	2.1 to 5.2	<b>Ground Application:</b> Apply in water in a minimum of 15 gallons per acre.  <b>Air Application:</b> Apply in water in a minimum of 3 gallons per acre.
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- 20



## MASTER LABEL

	Pickleworms Plant Bugs Rindworms Salt Marsh Caterpillar Sap Beetle Seedpod Weevil Squash Bugs Stink Bug spp. Tobacco Budworm Tarnished Plant Bug Thrips Whitefly			
	Twospotted Spider Mite	0.08 to 0.10	5.12 to 6.4	

### RESTRICTIONS:

- To maintain a proper spray interval, do not make applications less than 10 days apart.
- Do not make more than 4 applications per season.
- Do not apply within 1 day of harvest (PHI).

## GRAPES

PEST	DOSAGE		APPLICATION INSTRUCTIONS
	LB AI/A	FL OZ/A	
Eastern Grape Leafhopper Variegated Leafhopper Western Grape Leafhopper	0.05 to 0.10	3.2 to 6.4	<b>Ground Application:</b> Apply in water in a minimum of 25 gallons per acre.  <b>Air Application:</b> Apply in water in a minimum of 10 gallons per acre. Emulsified oil may be substituted for water.
Black Vine Weevil Glassywinged Sharpshooter Twospotted Spider Mite	0.10	6.4	See section entitled MIXING INSTRUCTIONS for details on the amount of oil to use in the spray tank in lieu of water.  When pest pressure is moderate to severe, use the higher rate.

### RESTRICTIONS:

- Do not apply more than 0.1 lb. active ingredient (6.4 ounces formulated) per acre per season.
- Do not apply within 30 days of harvest (PHI).

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- 21

# MASTER LABEL

## HOPS

PEST	DOSAGE		APPLICATION INSTRUCTIONS
	LB AI/A	FL OZ/A	
Aphids Armyworms Cutworms Leafrollers Loopers	0.06-0.10	3.8-6.4	<b>Ground Application:</b> Apply in water in a minimum of 100 – 150 gallons per acre in early season; 200-250 gallons per acre late season.  <b>Air Application:</b> Apply in water in a minimum of 10 gallons per acre.  Make a directed spray up the vine 3 feet and the soil surface 1.5 to 2 feet on either side of the plant to control root weevil.
Root Weevils	0.05-0.10	3.2-6.4	
Twospotted Spider Mite	0.10	6.4	

### RESTRICTIONS:

- Do not apply more than 0.1 lb. active ingredient (6.4 ounces formulated) per acre per application.
- Do not apply more than 0.3 lb. active ingredient (19.2 ounces formulated) per acre per season.
- To maintain a proper spray interval, do not make applications less than 21 days apart.
- Use of ultra low volume (ULV) application on hops is prohibited.
- Do not apply within 14 days of harvest (PHI).

## LEAFY BRASSICAS AND TURNIP GREENS

CROP	PEST	DOSAGE		APPLICATION INSTRUCTIONS
		LB AI/A	FL OZ/A	
Broccoli Raab Bok Choy Kale Mizuna Mustard Greens Mustard Spinach Rape Greens Turnip Greens*	Aphids Armyworms Corn Earworm Crickets Cucumber Beetles Cutworms Diamondback Moth Flea Beetles Grasshoppers Ground Beetles Imported Cabbageworm Japanese Beetle (adult) Leafhoppers Loopers Saltmarsh Caterpillar Stink Bugs Thrips Tobacco Budworm Whitefly Wireworm (adults)	0.033 to 0.10	2.1 to 6.4	<b>Ground Application:</b> Apply in water in a minimum of 10 gallons per acre.  <b>Air Application:</b> Apply in water in a minimum of 2 gallons per acre. Emulsified oil may be substituted for water.  See section entitled <b>MIXING INSTRUCTIONS</b> for details on the amount of oil to use in the spray tank in lieu of water.  Thorough coverage is essential to achieve control.  * Not for use in California.
	Banks Grass Mite Twospotted Spider Mite Carmin Mite Pacific Spider Mite Lygus spp.	0.08 to 0.10	5.12 to 6.4	

### RESTRICTIONS:

- Do not apply more than 0.4 lb. active ingredient (25.6 ounces formulated) per acre per season.
- Repeat applications if needed to maintain control, but do not make applications less than 7 days apart.
- Do not apply within 7 days of harvest (PHI).

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# MASTER LABEL

## LETTUCE, HEAD

PEST	DOSAGE		APPLICATION INSTRUCTIONS
	LB A/A	FL OZ/A	
Aphids Armyworms Corn Earworm Cucumber Beetles Cutworms Diamondback Moth Flea Beetle Imported Cabbageworm Leafhoppers Loopers Salt Marsh Caterpillar Stink Bug spp. Tobacco Budworm Whitefly	0.033-0.10	2.1-6.4	<b>Ground Application:</b> Apply in water in a minimum of 15 gallons per acre.  <b>Air Application:</b> Apply in water in a minimum of 5 gallons per acre. Emulsified oil may be substituted for water. See section entitled <b>MIXING INSTRUCTIONS</b> for details on the amount of oil to use in the spray tank in lieu of water.
Carmin Mite Lygus spp. Twospotted Spider Mite	0.08-0.10	5.12-6.4	

### RESTRICTIONS:

- To maintain a proper spray interval, do not make applications less than 7 days apart.
- Do not apply more than 0.5 lb. active ingredient (32 ounces formulated) per acre per season.
- Do not apply within 7 days of harvest (PHI).

## MAYHAW\*

PEST	DOSAGE		APPLICATION INSTRUCTIONS
	LB A/A	FL OZ/A	
Plum Curculio	0.08 -0.10	5.12 -6.4	<b>Ground Application:</b> Apply in water in a minimum of 28 gallons of finished-spray per acre.  <b>Air Application:</b> Apply in water in a minimum of 2 gallons per acre.  Apply in sufficient water to obtain uniform coverage as needed.

### RESTRICTIONS:

- Do not apply more than 0.2 lb. active ingredient (12.8 ounces formulated) per acre per season.
- To maintain a proper spray interval, do not make applications less than 7 days apart.
- Do not apply within 30 days of harvest (PHI).

\*Not registered for use in California unless accompanied by a supplemental label.



# MASTER LABEL

## OKRA

PEST		DOSAGE		APPLICATION INSTRUCTIONS
		LB AI/A	FL OZ/A	
Aphids Armyworms Corn Earworm Cucumber Beetles Cutworms European Corn Borer Flea Beetles Japanese Beetle (Adult) Leafminers Loopers Stink bugs Thrips Whitefly		0.033 - 0.10	2.1 - 6.4	<b>Ground Application:</b> Apply in water in a minimum of 10 gallons of finished-spray per acre.  <b>Air Application:</b> Apply in water in a minimum of 2 gallons per acre.  Apply in sufficient water to obtain uniform coverage as needed.
Broad Mite Carmine Mite Lygus spp. Two Spotted Spider Mite		0.08 - 0.10	5.12 - 6.4	
<b>RESTRICTIONS:</b> <ul style="list-style-type: none"><li>To maintain a proper spray interval, do not make applications less than 7 days apart.</li><li>Do not apply more than 0.20 lb. active ingredient (12.8 ounces formulated) per acre per season.</li><li>Do not apply within 7 days of harvest (PHI).</li></ul>				

## PEANUT \*

PEST		DOSAGE		APPLICATION INSTRUCTIONS
		LB AI/A	FL OZ/A	
Beet Armyworm Corn Earworm Cutworm species Fall Armyworm Grasshoppers Green Cloverworm Leafhoppers Lesser Cornstalk Borer Loopers Rednecked Peanut Worm Southern Armyworm Southern Corn Rootworm Stink Bugs Threecornered Alfalfa Hopper Velvetbean Caterpillar Yellowstriped Armyworm		0.033 -0.1	2.1 - 6.4	Ground Application: Apply in water in a minimum of 10 gallons of finished spray per acre.  Air Application: Apply in water in a minimum of 2 gallons per acre.  Apply in sufficient water to obtain uniform coverage as needed.
Aphids Spider Mites Thrips Whitefly		0.06 - 0.1	3.8 - 6.4	
RESTRICTIONS:				
<ul style="list-style-type: none"><li>Do not apply more than 0.5 lb. active ingredient (32 ounces formulated) per acre per season.</li><li>To maintain a proper spray interval, do not make applications less than 14 days apart.</li><li>Do not feed immature plants and peanut hay to livestock.</li><li>Do not apply within 14 days of harvest (PHI).</li></ul>				
* Not For Use in California.				

Last Stamped Label 03/01/2013

Last approved Notification 04/04/2013

Notification to add alternate brand name 04/26/2013

- 24

# MASTER LABEL

## PEARS

PEST	DOSAGE		APPLICATION INSTRUCTIONS
	LB AI/A	FL OZ/A	
Aphids Codling Moth Cutworms Green Fruitworm Leafhoppers Leafminers Leafrollers Lygus spp. Plant Bugs Plum Curculio San Jose Scale (Crawlers) Stink Bugs Tarnished Plant Bugs	0.04 - 0.2	2.6 - 12.8	<b>Ground Application:</b> Apply in water in a minimum of 200 gallons per acre (dilute) and 50 gallons per acre (concentrate).  <b>Air Application:</b> Apply in water in a minimum of 10 gallons per acre by air.
Twospotted Spider Mite Yellow Mite	0.06 - 0.2	3.8 - 12.8	
European Red Mite	0.08 - 0.2	5.12 - 12.8	

### RESTRICTIONS:

- Do not apply more than 0.5 lb. active ingredient (32 ounces formulated) per acre per season with no more than 0.45 (28.8 ounces formulated) pound active per acre applied after petal fall.
- To maintain a proper spray interval, do not make applications less than 30 days apart.
- Do not graze livestock in treated orchards or cut treated cover crops for feed.
- Do not apply within 14 days of harvest (PHI).

## ROOT CROPS (except Sugar Beets)

CROP	PEST	DOSAGE		APPLICATION INSTRUCTIONS
		LB AI/A	FL OZ/A	
Burdock, edible Carrot Celeriac Chervil, Turnip rooted Chicory Ginseng Horseradish Parsley, Turnip rooted Parsnip Radish Radish, Oriental Rutabaga Salsify Salsify, Black Salsify, Spanish Skirret Turnip	Aphids Beet Armyworm Celery Leafminer Corn Earworm Cross-Striped Cabbageworm Cutworm species Diamondback moth European Corn Borer Fall Armyworm Fire Ants Flea Beetles Green Cloverworm Hornworms Imported Cabbageworm Loopers Southern Armyworm Spider Mites Tobacco Budworm Velvetbean Caterpillar Whitefly Yellowstriped Armyworm	0.08 - 0.10	5.12 - 6.4	<b>Ground Application:</b> Apply in water in a minimum of 25 gallons of finished spray per acre.  <b>Air Application:</b> Apply in water in a minimum of 2 gallons per acre.  Apply in sufficient water to obtain uniform coverage as needed.

### RESTRICTIONS:

- Do not apply more than 0.5 lb. active ingredient (32 ounces formulated) per acre per season.
- To maintain a proper spray interval, do not make applications less than 7 days apart.
- Do not apply within 21 days of harvest (PHI).

Last Stamped Label 03/01/2013

Last approved Notification 04/04/2013

Notification to add alternate brand name 04/26/2013

- 25 -

## MASTER LABEL

CROP	PEST	Dosage		COMMENTS
		LB AI/A	FL OZ/A	
Garden Beet	Aphids Fire Ants Flea Beetles Lepidopterous Larvae Spider Mites Whitefly	0.08 - 0.10	5.12 - 6.4	<b>Ground Application:</b> Apply in water in a minimum of 25 gallons of finished spray per acre.  <b>Air Application:</b> Apply in water in a minimum of 2 gallons per acre.  Apply in sufficient water to obtain uniform coverage as needed.
<b>RESTRICTIONS:</b> <ul style="list-style-type: none"> <li>Do not apply more than 0.40 lb. active ingredient (25.6 ounces formulated) per acre per season.</li> <li>To maintain a proper spray interval, do not make applications less than 7 days apart.</li> <li>Do not apply within 1 day of harvest (PHI).</li> </ul>				

## SOYBEANS

PEST	DOSAGE		APPLICATION INSTRUCTIONS
	LB AI/A	FL OZ/A	
Alfalfa Caterpillar Aphids Aster Leafhopper Bean Leaf Beetle Beet Armyworm* Cloverworm Corn Earworm Corn Rootworm Adult Cucumber Beetles Cutworms European Corn Borer Fall Armyworm Flea Beetle Grasshoppers Imported Cabbageworm Japanese Beetle Adult Leafhoppers Leafminers Loopers Mexican Bean Beetle Adult Pea Leaf Weevil Pea Weevil Plant Bug Saltmarsh Caterpillar Sap Beetle Southern Armyworm Soybean Aphid Stink Bugs Tarnished Plant Bug Thrips Tobacco Budworm* Webworms Western Bean Cutworm Whitefly Yellowstriped Armyworm	0.033 - 0.10	2.1 - 6.4	<b>Ground Application:</b> Apply in water in a minimum of 10 gallons per acre.  <b>Air Application:</b> Apply in water in a minimum of 2 gallon per acre.  *Pyrethroid resistance is common for Beet Armyworm and Tobacco Budworm. Consult your local extension specialist, certified crop advisor, and/or manufacturer for insecticide resistance management and/or IPM guidance for the specific site and resistant pest problems.
Lygus spp. Whitefly Twospotted Spider Mite	0.08 - 0.10	5.12 - 6.4	
<b>RESTRICTIONS:</b> <ul style="list-style-type: none"> <li>To maintain a proper spray interval, do not make applications less than 30 days apart.</li> <li>Do not apply more than 0.3 lb. active ingredient (12.8 ounces formulated) per acre per season.</li> <li>Do not apply within 18 days of harvest (PHI).</li> </ul>			

Last Stamped Label 03/01/2013

Last approved Notification 04/04/2013

Notification to add alternate brand name 04/26/2013

- 26



# MASTER LABEL

## SPINACH

PESTS	DOSAGE		APPLICATION INSTRUCTIONS
	LB AI/A	FL OZ/A	
Armyworms Colorado Potato Beetle Corn Earworm Cucumber Beetles Cutworms European Corn Borer Flea Beetles Leafminers Loopers Pepper Weevil Thrips Tomato Hornworm Tomato Pinworm Whitefly	0.033 - 0.10	2.1 - 6.4	<b>Ground Application:</b> Apply in water in a minimum of 10 gallons per acre.  <b>Air Application:</b> Apply in water in a minimum of 5 gallons per acre.  For whitefly and fire ant control either at planting or as a foliar treatment, apply up to 6.4 oz. (0.1 lb. active) per acre being careful not to exceed reapplication intervals or maximum dosage rates specified in this section.
Banks Grass Mite Broad Mite Carmine Mite Fire Ants Lygus spp. Pacific Spider Mite Twospotted Spider Mite	0.08 - 0.10	5.12 - 6.4	
<b>RESTRICTIONS:</b> <ul style="list-style-type: none"><li>To maintain a proper spray interval, do not make applications less than 7 days apart.</li><li>Do not apply more than 0.4 lb. active ingredient (25.6 ounces formulated) per acre per season.</li><li>Do not apply within 40 days of harvest (PHI).</li></ul>			

Last Stamped Label 03/01/2013

Last approved Notification 04/04/2013

Notification to add alternate brand name 04/26/2013

- 27 -

# MASTER LABEL

## SUCCULENT PEAS AND BEANS

CROP	PEST	DOSAGE		APPLICATION INSTRUCTIONS
		LB AI/A	FL OZ/A	
Pea ( <i>Pisum</i> spp.)	Aster Leafhopper	0.025-0.10	1.6-6.4	<b>Ground Application:</b> Apply in water in a minimum of 10 gallons per acre.  <b>Air Application:</b> Apply in water in a minimum of 2 gallons per acre. Emulsified oil may be substituted for water.  See section entitled <b>MIXING INSTRUCTIONS</b> for details on amount of oil to use in the spray tank.
Dwarf Pea	Flea Beetle			
Edible-pod Pea	Grasshoppers			
English Pea	Leafhoppers			
Garden Pea	Alfalfa Caterpillar	0.033-0.10	2.1-6.4	
Green Pea	Aphids			
Snow Pea	Bean Leaf Beetle			
Sugar Snap Pea	Beet Armyworm			
Pigeon Pea	Cloverworm			
Bean ( <i>Phaseolus</i> spp.)	Corn Earworm			
Broadbean	Corn Rootworm			
(succulent)	Adult			
Lima bean (green)	Cucumber Beetle			
Runner bean	Cutworms			
Snap bean	European Corn Borer			
Wax bean	Fall Armyworm			
Bean ( <i>Vigna</i> spp.)	Japanese Beetle			
Asparagus Bean	Adult			
Blackeyed Pea	Loopers			
Chinese Longbean	Pea Leaf Weevil			
Cowpea	Pea Weevil			
Moth Bean	Plant Bugs			
Southern Pea	Sap Beetle			
Yardlong bean	Southern Armyworm			
Jackbean	Stink Bugs			
Soybean	Tarnished Plant Bug			
(immature seed)	Thrips			
Sword bean	Webworms			
	Western Bean Cutworm			
	Whitefly			
	Yellowstriped Armyworm			
	Banks Grass Mite	0.08-0.10	5.12-6.4	
	Carmine Mite			
	Lygus spp.			
	Twospotted Spider Mite			
<b>RESTRICTIONS:</b> <ul style="list-style-type: none"><li>Do not apply more than 0.2 lb. active ingredient (12.8 ounces formulated product) per acre per season.</li><li>Do not apply within 3 days of harvest (PHI).</li></ul>				

Last Stamped Label 03 01 2013

Last approved Notification 04 04 2013

Notification to add alternate brand name 04 26 2013

- 28

# MASTER LABEL

## TOBACCO

PEST	DOSAGE		APPLICATION INSTRUCTIONS
	LB AI/A	FL OZ/A	
Armyworm spp. Cutworm spp. Mole Crickets Stalkborers Tobacco Flea Beetle (larvae) White Grubs Wireworms	0.0625-0.10	4.0 - 6.4	<b>Pre-Transplant Soil Applications:</b> Apply 0.0625 - 0.1 lb. active ingredient per acre in a minimum of 10 gallons per acre to control soil pests. Use of suitable equipment to incorporate into top 4" of the soil is required to control below- ground pests.  <b>Transplant Water Treatment Application:</b> Apply 0.0625 - 0.1 lb. active ingredient per acre in a water treatment application volume of 10-200 gallons per acre.
Aphid spp. Armyworm spp. Flea Beetle (Adult) Chinch bugs Stink bugs Japanese Beetles Grasshoppers Cutworm spp. Tarnished Plant Bugs Green bugs Thrips Whiteflies	0.04 - 0.10	2.56 - 6.4	<b>Foliar Applications:</b> Apply 0.04 - 0.1 lb. active ingredient per acre foliar application up to and including layby in a minimum of 10 gallons per acre.
Spider Mites <i>Lygus</i> spp.	0.10	6.4	
<b>RESTRICTIONS:</b> <ul style="list-style-type: none"><li>• For foliar applications, do not make more than 2 applications per season.</li><li>• May be tank mixed with Command®, Spartan®, and other herbicides approved for tobacco use.</li><li>• For all applications do not apply more than 0.2 lb. active ingredient (12.8 ounces formulated) per acre per season.</li><li>• Do not apply later than layby.</li></ul>			

## Tree Nuts Crops

Tree Nut Crops including: Almond, Beech nut, Brazil nut, Butternut, Cashew, Chestnut, Chinquapin, Filbert (hazelnut), Hickory nut, Macadamia nut (bush nut), Pecan, pistachio, and Walnut (Black & English)

PEST	DOSAGE		APPLICATION INSTRUCTIONS
	LB AI/A	FL OZ/A	
Black Pecan Aphid Codling Moth Filbert Worm Hickory Shuckworm Leaffooted Bugs Navel Orangeworm Oblique Banded Leafroller Peach Twig Borer Pecan Leaf Casebearer Pecan Nut Casebearer Pecan Phylloxera Plant Bugs Stink Bugs Walnut Aphid Yellow Pecan Aphid	0.052-0.20	3.2-12.8	<b>Ground Application:</b> Apply as a dilute (minimum of 200 gallons of finished spray per acre) or concentrate (minimum of 50 gallons of finished spray per acre) spray in sufficient water to provide thorough coverage.  <b>Air Application:</b> Apply in a minimum of 10 gallons of finished spray per acre.
European Red Mite Spider Mites	0.08-0.20	5.1-12.8	
Fire Ants Walnut Husk Fly	0.1-0.20	6.4-12.8	
<b>RESTRICTIONS:</b> <ul style="list-style-type: none"><li>Minimum spray intervals: Apply Bifen 25% EC [alt. Brand Name] as needed to maintain control, but not apply at intervals sooner than 15 days.</li><li>Observe a 21-day Pre-Harvest Interval (PHI) for Pecans and a 7-day Pre-Harvest Interval (PHI) for all other registered tree nut</li></ul>			

Last Stamped Label 03/01/2013

Last approved Notification 04/04/2013

Notification to add alternate brand name 04/26/2013

- 29



## MASTER LABEL

crops.

- Do not exceed 0.2 lb. active ingredient per acre per application; do not exceed 0.50 lb. active ingredient per acre per season.
- Do not graze livestock in treated orchards or cut treated cover crops for feed.
- Do not apply within 21 days of harvest (PHI) for Pecans.
- Do not apply within 7 days of harvest (PHI) for all other nut crops.

### TUBEROUS AND CORM VEGETABLES

CROP	PEST	DOSAGE		APPLICATION INSTRUCTIONS
		LB AI/A	FL OZ/A	
Arracacha Arrowroot Potato Chinese Artichoke Jerusalem Artichoke Edible Canna Cassava (bitter & sweet)	Corn Wireworm Tobacco Wireworm	0.30 (at-plant)	19.2 (at-plant)	<b>In-Furrow planting time treatment:</b> Bifen 25% EC [alt. Brand Name] may be applied as an in-furrow planting time treatment for the control of wireworms, rootworms, and white grubs. Apply Bifen 25% EC [alt. Brand Name] at the rate of 0.3 lb. active ingredient per acre as an in-furrow spray or T-band spray at planting time.  <b>Lay-By treatment:</b> Bifen 25% EC [alt. Brand Name] may be applied as a layby treatment for the control of wireworms, rootworms and white grubs. Apply Bifen 25% EC [alt. Brand Name] to the drill area and cover with soil utilizing cultivation equipment set to throw soil to the drill area. Apply Bifen 25% EC [alt. Brand Name] as a banded spray over the row at a rate of 0.05 -0.15 lb. active ingredient per acre (3.2 - 9.6 ounces formulated) in 10 gallons per acre of spray.
Chayote (root) Chula Dasheen (taro) Ginger Leren Potato Sweet Potato Tanier Turmeric Yam bean True yam	Japanese Beetle Grubs June Beetle Southern Potato Wireworm	0.05-0.15 (layby)	3.2-9.6 (layby)	
	Banded Cucumber Beetle Black Flea Beetle Cucumber Beetle Rootworms Sweetpotato Flea Beetle Sweetpotato Weevil Whitefringed Beetle White Grub Sugarcane Beetle	0.033-0.10 (foliar)	2.1-6.4 (foliar)	<b>Foliar spray:</b> Bifen 25% EC [alt. Brand Name] may be applied as a foliar spray for the control of the adult life stages of flea beetles, click beetles (wireworms), cucumber beetles (rootworms), whitefringed beetles and May/June beetles (white grubs). Apply Bifen 25% EC [alt. Brand Name] at the rate of 0.033 to 0.10 lb. active ingredient per acre (2.1 to 6.4 ounces formulated) in 10 gallons of spray by ground and 3 gallons of spray by air.

#### RESTRICTIONS:

- For foliar applications, do not make more than 2 foliar applications per season and do not make application less than 21 days apart.
- Do not apply more than 0.5 lb. active ingredient (32 ounces formulated) per acre per season, including soil applications.
- Do not apply within 21 days of harvest (PHI).

### ORNAMENTALS\*

\* NOT FOR USE IN CALIFORNIA TO CONTROL LISTED INSECT PESTS ON ORNAMENTALS AND TREES (INCLUDING FIELD AND CONTAINER GROWN NURSERY STOCK, CHRISTMAS TREES, INTERIORSCAPES AND PLANTSCAPES, LAWNS, TREES AND SHRUBS, AND ON GOLF COURSES AND SOD FARMS).

For use on plants intended for aesthetic purposes or climatic modifications and being grown in interior plantscapes and on outdoor ornamentals, Christmas trees, nurseries, lawns, sod farms and golf courses.

#### USE INSTRUCTIONS

Bifen 25% EC [alt. Brand Name] mixes with water and other aqueous carriers to control a broad assortment of insects and mites on trees, shrubs, foliage plants, non-bearing fruit and nut trees, and flowers in interiorscapes, including hotels, shopping malls, office buildings, etc. and outdoor plantscapes such as, but not limited to, nurseries, residential dwellings, parks, institutional buildings, recreational areas, athletic fields, golf courses, sod farms, and home lawns. Non-bearing crops are perennial crops that will not produce a harvestable raw agricultural commodity during the season of application.

Last Stamped Label 03/01/2013

Last approved Notification 04/04/2013

Notification to add alternate brand name 04/26/2013

- 30 -

## MASTER LABEL

Bifen 25% EC [alt. Brand Name] may be tank-mixed with other products, including insect growth regulators. When tank mixing Bifen 25% EC [alt. Brand Name] with other products observe all precautions and limitations on each separate product label. The addition of spreader stickers is not necessary. The physical compatibility of Bifen 25% EC [alt. Brand Name] may vary with different sources of pesticide products, and local cultural practices. Any tank mixture which has not been previously tested should be prepared on a small scale (pint or quart jar), using the proper proportions of chemicals and water to ensure the physical compatibility of the mixture.

The following procedure is recommended for preparation of a new tank mix, unless specified otherwise in label directions:

1. Add wettable powders to tank water
2. Agitate
3. Add fluids and flowables
4. Agitate
5. Add emulsifiable concentrates
6. Agitate

If a mixture is found to be incompatible following the order of addition, try reversing the order of addition, or increase the volume of water. **Note:** If the tank mixture is found to be compatible after increasing the amount of water then the sprayer will need to be recalibrated for a higher volume application. Do not allow tank mix to stand overnight. When using tank mixes, observe all restrictions and precautions which appear on the labels of these products. Provide constant agitation to keep the mixture in solution.

## APPLICATION INSTRUCTIONS

### TRUNK SPRAYS TO ORNAMENTAL TREES (including Christmas trees)

#### For Control of Bark Beetles and Boring Beetles

Refer to the table below. Application rates and timing differ according to the target pest and other factors specific to each local situation. Consult your local State Extension specialist or other qualified expert for recommendations. **Note:** Do not apply more than 12.8 fl. oz. (0.2 lbs. AI) per acre of this product to trees. Repeat application may be necessary if reinfestation is likely.

PEST	DOSAGE	SPRAY VOLUME	REMARKS AND RESTRICTIONS
<b>Dendroctonus bark beetles</b> such as mountain pine beetle, southern pine beetle, western pine beetle, and black turpentine beetle.	16 -32 fl. oz. per 100 gallons (0.25 – 0.5 lb. AI per 100 gallons)	Use 1-4 gallons of finished spray per tree.	Make applications to the trunk of the tree with a hydraulic sprayer in the early spring or prior to adult beetle flight and tree infestation.
Engraver beetle ( <i>Ips</i> spp.)	16 – 32 fl. oz. per 100 gallons (0.25 – 0.5 lb. AI per 100 gallons)	Use 10-14 gallons of finished spray per tree.	Apply spray directly to the main trunk from the base of the tree to at least half-way into the live crown. Spray until the bark is thoroughly wet.
<b>Other bark beetles</b> such as ambrosia beetles, elm bark beetles, and metallic wood borers such as emerald ash borer.	16 – 32 fl. oz. per 100 gallons (0.25 – 0.5 lb. AI per 100 gallons)	Use 2-5 gallons of finished spray per tree.	Make applications of a spray mixture to the trunk, scaffolding and limbs of the tree with a hydraulic sprayer in the early spring or prior to adult beetle flight and tree infestations. Spray until the bark is thoroughly wet.
<b>Clearwing moth borers</b> such as ash borer, banded ash clearwing, dogwood borer, lesser peachtree borer, lilac borer, oak borer, peachtree borer, rhododendron borer	6.4 – 12.8 fl. oz. per 100 gallons (0.1 – 0.2 lb. AI per 100 gallons)	Use 1-4 gallons of finished spray per tree.	Apply to the branches and trunks prior to adult emergence. Spray until the bark is thoroughly wet. For maximum residual control, use highest recommended rate.
<b>Coleopteran borers</b> such as bronze birch borer, flatheaded apple tree borer			

Last Stamped Label 03 01 2013

Last approved Notification 04 04 2013

Notification to add alternate brand name 04 26 2013

- 31



## MASTER LABEL

### Treatment of Infested Trees to Control Emerging Brood

Make applications of a spray mixture containing 2.0 pints of Bifen 25% EC [alt. Brand Name] per 100 gallons of water to trees that still have beetles in the bark. Apply spray directly to the main trunk from the base of the tree to at least half-way into the live crown. Spray until the bark is thoroughly wet (usually 1 to 4 gallons of spray per tree). Do not apply more than 0.2 lbs. AI (12.8 fl. oz.) of this product to trees per acre.

Trees on which all needles have turned brown generally have been vacated and should not be sprayed unless infestation is confirmed. To confirm an infestation, scrape off the outer bark to determine if trees are still infested. If live infestations remain in the trunks, fell the trees and cut into sections. Spray the trunk and large limbs and turn sections so that all of the surface area can be treated. Do not apply more than 0.2 lbs. AI (12.8 fl. oz.) of this product to trees per acre.

### FOLIAR SPRAYS TO ORNAMENTALS AND TREES

(Including Field and Container Grown Nursery Stock, Christmas Trees, Interiorscapes and Plantscapes, Lawns, Trees and Shrubs, and on Golf Courses and Sod Farms)

For applications to ornamentals (including trees, shrubs, ground covers, bedding plants and foliage plants, conifers (field and container grown), Christmas Trees and pine seed orchards) apply 0.04 to 0.32 fl. oz. Bifen 25% EC [alt. Brand Name] per 1,000 sq. ft. or 1.8 to 14.4 fl. oz. per 100 gallons. Bifen 25% EC [alt. Brand Name] may be diluted and applied in various volumes of water providing that the maximum label rate (0.32 fl. oz. per 1,000 sq. ft. or 14.4 fl. oz. per 100 gallons) is not exceeded. Bifen 25% EC [alt. Brand Name] may be applied through low volume application equipment by dilution with water or other carriers and providing that the maximum label rate (0.32 fl. oz. per 1,000 sq. ft. or 14.4 fl. oz. per 100 gallons) is not exceeded.

### Calculating Dilution Rates Using the Ornamental Application Rates Table and the Bifen 25% EC [alt. Brand Name] Dilution Chart

Use the following steps to determine the appropriate dilution of this product required to control the specific pests:

1. Find the least susceptible target pest (the pest that requires the highest application rate for control).
2. Select an application rate in terms of fluid ounces of this product.
3. Find your application volume and how much spray you want to prepare.
4. Use the **Ornamental Dilution Chart** to determine the appropriate volume of this product that must be mixed in your desired volume of water.

For example, to control black vine weevil adults on rhododendron, the **Ornamental Application Rates** table shows that 0.08 to 0.16 fl. oz. of this product should be applied per 1,000 sq. ft. You select an application rate of 0.16 fl. oz. per 1,000 sq. ft. because maximum residual control is desired. Your application volume is approximately 300 gallons per acre which is equivalent to 6.9 gallons per 1,000 sq. ft. Consulting the **Ornamental Dilution Chart** shows that you should dilute 0.24 fl. oz. of this product in 10 gallons of water.

BIFEN 25% EC ORNAMENTAL DILUTION CHART

Application Rate	Fluid Ounces (mL) of Bifen 25% diluted to the Volumes of Finished Spray						
	1 Gallon		5 Gallons		10 Gallons		100 Gallons
Fl. oz./1,000 sq. ft.	Fl. oz.	mL	Fl. oz.	mL	Fl. oz.	mL	Fl. oz.
0.04	0.018	0.5	0.09	2.6	0.18	5.3	1.8
0.08	0.036	1.1	0.18	5.3	0.36	10.6	3.6
0.16	0.072	2.1	0.36	10.6	0.72	21.3	7.2
0.32	0.144	4.3	0.72	21.3	1.44	42.6	14.4

$$\frac{(7.9)(\text{Fl. Oz. of Bifen 25\% EC [alt. Brand Name] added to tank})}{(\text{gallons of finished spray mix})(128)}$$

= Percent Active Ingredient of Spray Mix



## MASTER LABEL

### ORNAMENTAL AND TREE FOLIAR APPLICATION RATES

The application rates listed in the following table will provide excellent control of the noted pests under typical conditions. However, at the discretion of the applicator, this product may be applied at up to 0.32 fl. oz. per 1,000 sq. ft (14.4 fl. oz. per 100 gallons) to control each of the pest listed in this table. The higher application rates should be used when maximum residual control is desired.

PEST	DOSAGE	REMARKS AND RESTRICTIONS
Bagworms Cutworms Elm Leaf Beetles Fall Webworms Gypsy Moth Caterpillars Lace Bugs Leaf Feeding Caterpillars Tent Caterpillars Tussock moth	0.04 – 0.08 fl. oz. per 1,000 sq. ft.  (1.8 – 3.8 fl. oz. per 100 gallons)	<sup>1</sup> Bagworms: For best results, apply when larvae begin to hatch and spray larvae directly. Applications when larvae are young will be most effective.  <sup>2</sup> Beetles, Scale Crawlers, Twig Borers, and Weevils: May treat trunks, stems and twigs in addition to plant foliage.  <sup>3</sup> Spider Mites: Bifen 25% EC [alt. Brand Name] provides optimal twospotted spider mite control when applied during spring to mid-summer. Higher application rates and/or more frequent treatments may be required for acceptable twospotted spider mite control during mid- to late-summer. The addition of a surfactant or horticultural oil may increase the effectiveness of this product. Combinations of this product with other registered miticides have also proven effective. Alternately, Bifen 25% EC [alt. Brand Name] applications may be rotated with those of other products that have different modes of action in control programs that are designed to manage resistance by twospotted spider mites. Consult your local Cooperative Extension Service for resistance management recommendations in your region.
Adelgids Ants Aphids Bees Beet Armyworm Beetles <sup>2</sup> Black Vine Weevil (Adults) Scales, such as Brown Soft Scales California Red Scale (Crawlers) <sup>2</sup> Elongated Hemlock Scale Pine Needle Scales (crawlers) <sup>2</sup> San Jose Scales (Crawlers) <sup>2</sup> Broad Mites Budworms Cicadas Citrus Thrips Clover Mites Crickets Earwigs European Red Mite Flea Beetles Fungus Gnats (Adults) Glasswinged Sharpshooter Grasshoppers Japanese Beetle (Adult) Leafhoppers Leafrollers Mealybugs Mites Mosquitoes Nantucket Pine Tip Moth Pillbugs Pine sawflies Plant Bugs (including <i>Lygus</i> spp.) Psyllids Scorpions Spider Mites <sup>3</sup> Spiders Spittlebugs Thrips Tip Moths Treehoppers Twig Borers <sup>2</sup>	0.08 – 0.16 fl. oz. per 1,000 sq. ft.  (3.6 – 7.2 fl. oz. per 100 gallons)	

Last Stamped Label 03/01/2013

Last approved Notification 04/04/2013

Notification to add alternate brand name 04/26/2013

- 33

## MASTER LABEL

Wasps Weevils <sup>2</sup> such as White Pine Weevil Pales Weevil Diaprepes adults Orchid Weevil White flies Zimmerman pine moths		
Imported Fire Ants** Leafminers Pecan Leaf Scorch Mite Pine Shoot Beetle (Adults) Spider Mites <sup>3</sup>	0.16 – 0.32 fl. oz. per 1,000 sq. ft.  (7.2 – 14.4 fl. oz. per 100 gallons)	** For foraging ants

### BROADCAST SPRAYS TO TURFGRASS (including lawns, golf courses, sod farms, parks, etc).

Apply Bifen 25% EC [alt. Brand Name] as a broadcast treatment. Use higher volumes up to 10 gallons of carrier per 1000 square feet to get uniform coverage when treating dense grass foliage.

For low water volume usage, less than 2 gallons/1000 square feet, addition of a non-ionic or silicone based surfactant (0.25% v/v) is recommended. Irrigation to treated area within a few hours following application can improve efficacy to sub-surface pests such as, but not limited to, mole crickets.

#### Restrictions:

- In New York State, this product may NOT be applied to any grass or turf area within 100 feet of a water body (lake, pond, river, stream, wetland, or drainage ditch).
- In New York State, do make a single repeat application of this product if there are signs of renewed insect activity, but not sooner than two weeks after the first application.

#### Spray Drift Precautions (For Turf & Ornamental Uses)

Do not apply when wind conditions favor downwind drift to nearby water bodies.

Do not apply when wind velocity exceeds 10 miles per hour. Avoid application when wind gusts approach 10 mph.

Apply using nozzles that provide the largest droplet size compatible with adequate coverage

#### Turfgrass Application Rates

The application rates listed in the following table will provide excellent control of the respective pests under typical conditions. However, at the discretion of the applicator, Bifen 25% EC [alt. Brand Name] may be applied at up to 0.32 fl. oz. per 1000 square feet to control each of the pests listed in this table. The higher application rates should be used when maximum residual control is desired or heavy pest populations occur.

PEST	DOSAGE
Armyworms <sup>1</sup> Cutworms <sup>1</sup> Sod Webworm <sup>1</sup>	0.05 to 0.08 fl. oz. per 1,000 sq. ft.
Annual Bluegrass Weevil ( <i>Hyperodes</i> ) (Adult) <sup>2</sup> Banks Grass Mite <sup>5</sup> Billbugs (Adult) <sup>3</sup> Black Turfgrass Ataenius (Adult) <sup>4</sup> Crickets Earwigs Fleas (Adult) Grasshoppers Mealybugs Mites <sup>6</sup>	0.08 to 0.16 fl. oz. per 1,000 sq. ft.
Ants Chinch Bugs <sup>5</sup> Fleas (Larvae) <sup>7</sup> Imported Fire Ants <sup>8</sup> Japanese Beetle (Adult) Mole Cricket (Adult) <sup>9</sup>	0.16 to 0.32 fl. oz. per 1,000 sq. ft.

Last Stamped Label 03/01/2013

Last approved Notification 04/04/2013

Notification to add alternate brand name 04/26/2013

- 34 -

## MASTER LABEL

Mole Cricket (Nymph)<sup>10</sup>  
Ticks<sup>11</sup>

1. **Armyworms, Cutworms and Sod Webworms:** To ensure optimum control, delay watering (irrigation) or mowing for 24 hours after application. If the grass area is being maintained at a mowing height of greater than 1 inch, then higher application rates (up to 0.32 fluid oz. per 1000 square feet) may be required during periods of high pest pressure.
2. **Annual Bluegrass Weevil (Hyperodes) adults:** Applications should be timed to control adult weevils as they leave their overwintering sites and move into grass areas. This movement generally begins when Forsythia is in full bloom and concludes when flowering dogwood (Carnes florida) is in full bloom. Consult your State Cooperative Extension Service for more specific information regarding application timing.
3. **Billbug adults:** Applications should be made when adult billbugs are first observed during April and May. Degree day models have been developed to optimize application timing. Consult your State Cooperative Extension Service for information specific to your region. In temperate regions, spring applications targeting billbug adults will also provide control of over-wintered chinch bugs.
4. **Black Turfgrass Ataenius adults:** Applications should be made during May and July to control the first and second generation of black turfgrass ataenius adults, respectively. The May application should be timed to coincide with the full bloom stage of Vanhoutte spiraea (Spiraea vanhouttei) and horse chestnut (Aesculus hippocastanum). The July application should be timed to coincide with this blooming of Rose of Sharon (Hibiscus syriacus).
5. **Chinch Bugs:** Chinch Bugs infest the base of grass plants and are often found in the thatch layer. Irrigation of the grass area before treatment will optimize the penetration of the insecticide to the area where the chinch bugs are located. Use higher volume applications if the thatch layer is excessive or if a relatively long mowing height is being maintained. Chinch bugs can be one of the most difficult pests to control in grasses and the higher application rates (up to 0.32 fluid oz. per 1000 square feet) may be required to control populations that contain both nymphs and adults during the middle of the summer.
6. **Mites:** To ensure optimal control of eriophyid mites, apply in combination with the labeled application rate of a surfactant. A second application, five to seven days after the first, may be necessary to achieve acceptable control.
7. **Flea larvae:** Flea larvae develop in the soil of shaded areas that are accessible to pets or other animals. Use a higher volume application when treating these areas to ensure penetration of the insecticide into the soil. Note: if the lawn area is being treated with this product at 0.08 fluid oz. per 1000 square feet for adult flea control, then the larval application rate may be achieved by increasing the application volume two- to four-fold.
8. **Imported Fire Ants:** Control will be optimized by combining broadcast applications that will control foraging workers and newly mated fly-in queens with mound drenches that will control existing colonies. If the soil is not moist, then it is important to irrigate before application or use a high volume application. Broadcast treatments should apply 0.32 fluid oz. per 1,000 square feet. Mounds should be treated by diluting 0.05 fluid oz. of Bifen 25% EC [alt. Brand Name] per gallon of water and applying 1 to 2 gallons of finished spray per mound. The mounds should be treated with sufficient force to break their apex and allow the insecticide solution to flow into the ant tunnels. A four foot diameter circle around the mound should also be treated. For best results, apply in cool weather (65 - 80°F) or in early morning or late evening hours.
9. **Mole Cricket adults:** Achieving acceptable control of adult mole crickets is difficult because preferred grass areas are subject to continuous invasion during the early spring by this extremely active stage. Applications should be made as late in the day as possible and should be watered in with up to 0.5 inches of water immediately after treatment. If the soil is not moist, then it is important to irrigate before application to bring the mole crickets closer to the soil surface where contact with the insecticide will be maximized. Grass areas that receive pressure from adult mole crickets should be treated at peak egg hatch to ensure optimum control of subsequent nymph populations (see below).
10. **Mole Cricket nymphs:** Grass areas that received intense adult mole cricket pressure in the spring should be treated immediately prior to peak egg hatch. Optimal control is achieved at this time because young nymphs are more susceptible to insecticides and they are located near the soil surface where the insecticide is most concentrated. Control of larger, more damaging, nymphs later in the year may require both higher application rates and more frequent applications to maintain acceptable control. Applications should be made as late in the day as possible and should be watered in with up to 0.5 inches of water immediately after treatment. If the soil is not moist, then it is important to irrigate before application to bring the mole crickets closer to the soil surface where contact with the insecticide will be maximized.
11. **Ticks (Including ticks that may transmit Lyme Disease and Rocky Mountain Spotted fever):** Do not make spot applications. Treat the entire area where exposure to ticks may occur. Use higher spray volumes when treating areas with dense ground cover or heavy leaf liner. Ticks may be reintroduced from surrounding areas on host animals. Retreatment may be necessary to achieve and/or maintain control during periods of high pest pressure. Repeat application is necessary only if there are signs of renewed activity.

Last Stamped Label 03 01 2013

Last approved Notification 04 04 2013

Notification to add alternate brand name 04 26 2013

- 35 -



## MASTER LABEL

Repeat application must be limited to no more than once per seven days.

**Deer ticks (*Ixodes spp.*)** have a complicated life cycle that ranges over a two year period and involves four life stages. Applications should be made in the late fall and/or early spring to control adult ticks that are usually located on brush or grass above the soil surface and in mid to late spring to control larvae and nymphs that reside in the soil and leaf litter.

**American dog ticks** may be a considerable nuisance in suburban settings, particularly where homes are built on land that was previously field or forest. These ticks commonly congregate along paths or roadways where humans are likely to be encountered.

Applications should be made as necessary from mid-spring to early fall to control American dog tick larvae, nymphs and adults.

**BIFEN 25% EC [ALT. BRAND NAME] LAWN DILUTION CHART**

Application Volume: Gallons/ 1000 sq. ft.	Application Rate: Fl. Oz./ 1000 sq. ft.	Fluid Ounces (mL) of Bifen 25% EC [alt. Brand Name] diluted to the Volumes of Finished Spray							
		1 Gallon		5 Gallons		10 Gallons		100 Gallons	
		Fl. oz.	mL	Fl. oz.	mL	Fl. oz.	mL	Fl. oz.	
1	0.05	0.05	1.48	0.25	7.39	0.50	14.8	5.00	
1	0.08	0.08	2.37	0.40	11.83	0.80	23.7	8.00	
1	0.16	0.16	4.73	0.80	23.66	1.60	47.3	16.00	
1	0.32	0.32	9.46	1.60	47.32	3.20	94.6	32.00	
2	0.05	0.025	0.74	0.13	3.70	0.25	7.4	2.50	
2	0.08	0.040	1.18	0.20	5.91	0.40	11.8	4.00	
2	0.16	0.080	2.37	0.40	11.83	0.80	23.7	8.00	
2	0.32	0.160	4.73	0.80	23.66	1.60	47.3	16.00	
3	0.05	0.017	0.49	0.08	2.46	0.17	4.9	1.67	
3	0.08	0.027	0.79	0.13	3.94	0.27	7.9	2.67	
3	0.16	0.053	1.58	0.27	7.89	0.53	15.8	5.33	
3	0.32	0.107	3.15	0.53	15.77	1.07	31.5	10.67	
4	0.05	0.013	0.37	0.06	1.85	0.13	3.7	1.25	
4	0.08	0.020	0.59	0.10	2.96	0.20	5.9	2.00	
4	0.16	0.040	1.18	0.20	5.91	0.40	11.8	4.00	
4	0.32	0.080	2.37	0.40	11.83	0.80	23.7	8.00	
5	0.05	0.010	0.30	0.05	1.48	0.10	3.0	1.00	
5	0.08	0.016	0.47	0.08	2.37	0.16	4.7	1.60	
5	0.16	0.032	0.95	0.16	4.73	0.32	9.5	3.20	
5	0.32	0.064	1.89	0.32	9.46	0.64	18.9	6.40	
10	0.05	0.005	0.15	0.03	0.74	0.05	1.5	0.50	
10	0.08	0.008	0.24	0.04	1.18	0.08	2.4	0.80	
10	0.16	0.016	0.47	0.08	2.37	0.16	4.7	1.60	
10	0.32	0.032	0.95	0.16	4.73	0.32	9.5	3.20	

### Attention

- Do not apply to pets, crops, or sources of electricity.
- Firewood is not to be treated.
- Do not allow spray to contact food, foodstuffs, food contacting surfaces, food utensils or water supplies.
- Do not apply this pesticide in livestock buildings (barns).
- Keep children and *pets off* treated areas following application until the spray has dried.
- Do not apply by air.
- Do not use in greenhouses.
- Do not apply this product through any type of irrigation system. Do not apply when a temperature inversion exists.
- Do not apply for surface feeding pests if rain is expected within 12 hours (or whatever time is necessary for the spray to dry).
- For turf treatment, apply with nozzles not more than 2 feet above the grass.
- Do not apply within 25 feet of lakes, reservoirs, rivers, permanent streams, marshes or natural ponds, estuaries and commercial fish farm ponds.
- Do not apply when grass areas are water logged or the soil is saturated with water (i.e., will not accept irrigation).

Last Stamped Label 03 01 2013

Last approved Notification 04 04 2013

Notification to add alternate brand name 04 26 2013

- 36

## MASTER LABEL

• Vinyl and Aluminum Siding: Do not spray directly onto vinyl or aluminum siding. If Bifen 25% EC [alt. Brand Name] inadvertently contacts vinyl and aluminum siding (particularly lightly colored, aged, weathered or otherwise damaged), it may result in staining, bleaching or discoloration. Wash off thoroughly with detergent and water. Factors such as extreme heat and direct sunlight can promote damage when using emulsifiable concentrates. Avoid application to vinyl or aluminum siding while exposed to direct sunlight or during the heat of the day.

### CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

**BEFORE BUYING OR USING THIS PRODUCT**, read the entire Directions for Use and the following Conditions of Sale and Limitation of Warranty and Liability. By buying or using this product, the buyer or user accepts the following Conditions of Sale and Limitation of Warranty and Liability, which no employee or agent of TACOMA AG, LLC or the seller is authorized to vary in any way.

Follow the Directions for Use of this product carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop or other plant injury, ineffectiveness, or other unintended consequences may result from such risks as weather or crop conditions, mixture with other chemicals not specifically identified in this product's label, or use of this product contrary to the label instructions, all of which are beyond the control of TACOMA AG, LLC and the seller. The buyer or user of this product assumes all such inherent risks.

Subject to the foregoing inherent risks, TACOMA AG, LLC warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use when the product is used in strict accordance with such Directions for Use under normal conditions of use. **EXCEPT AS WARRANTED IN THIS LABEL, THIS PRODUCT IS SOLD AS IS TO THE EXTENT ALLOWED BY APPLICABLE LAW. TACOMA AG, LLC MAKES NO OTHER WARRANTY, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR ELIGIBILITY OF THIS PRODUCT FOR ANY PARTICULAR TRADE USAGE.**

**TO THE EXTENT ALLOWED BY APPLICABLE LAW, THE BUYERS OR USERS EXCLUSIVE REMEDY FOR ANY INJURY, LOSS, OR DAMAGE RESULTING FROM THE HANDLING OR USE OF THIS PRODUCT, INCLUDING BUT NOT LIMITED TO CLAIMS OF BREACH OF WARRANTY OR CONTRACT, NEGLIGENCE, STRICT LIABILITY, OR OTHER TORTS, SHALL BE LIMITED TO ONE OF THE FOLLOWING, AT THE ELECTION OF TACOMA AG, LLC OR THE SELLER: DIRECT DAMAGES NOT EXCEEDING THE PURCHASE PRICE OF THE PRODUCT OR REPLACEMENT OF THE PRODUCT. TO THE EXTENT ALLOWED BY APPLICABLE LAW, TACOMA AG, LLC AND THE SELLER SHALL NOT BE LIABLE TO THE BUYER OR USER OF THIS PRODUCT FOR ANY CONSEQUENTIAL, SPECIAL, OR INDIRECT DAMAGES, OR DAMAGES IN THE NATURE OF A PENALTY.**

Ammo, Capture, Mustang – trademarks of FMC Corporation  
Ambush, Karate – trademarks of a Syngenta Group Company.  
Asana – trademark of E.I. duPont de Nemours & Company  
Baythroid – trademark of Bayer  
Danitol – trademark of Sumitomo Chemical Company, Ltd.  
Scout Xtra – trademark of Hoechst Schering Agrevo S.A.

*Last Stamped Label 03/01/2013*

*Last approved Notification 04/04/2013*

*Notification to add alternate brand name 04/26/2013*

- 37 -





**PPIS Deficiency Notice**

PM NUMBER: 10

REGISTRATION NUMBER: 83520-4

Transferred from: Senedu Alemu (Macfadden)

Date Processed: 1/9/14

This jacket has been found to be deficient according to established EPA data processing guidelines for the following reasons:

1. Current accepted label dated \_\_\_\_/\_\_\_\_/\_\_\_\_  
\_\_\_\_ is missing from the jacket. \_\_\_\_ is missing acceptance stamp.  
\_\_\_\_ Acceptance stamp is missing date and/or registration number.  
\_\_\_\_ Is missing the following information: \_\_\_\_\_
2. Acceptance letter dated \_\_\_\_/\_\_\_\_/\_\_\_\_ and associated label are inconsistent concerning: \_\_\_\_ Acceptance date. \_\_\_\_ Product name. \_\_\_\_ Registration number.
3. Comments letter associated with label dated \_\_\_\_/\_\_\_\_/\_\_\_\_ is missing from the jacket.
4. Accepted (Basic / Alternate) CSF dated \_\_\_\_/\_\_\_\_/\_\_\_\_  
\_\_\_\_ Is missing from the jacket. \_\_\_\_ Is misfiled or has wrong registration number.  
\_\_\_\_ Sole active ingredient source product \_\_\_\_\_ - \_\_\_\_\_ has been cancelled.
5. \_\_\_\_ Active and inert chemical percentages do not equal 100%.
6. ☒ Other information missing / inconsistent within the jacket. See below for details.

We just want to inform you that this label didn't make it to PPLS due to page 39 and 47 referred on page 2/2 of EPA letter dated 3/1/13. The label contained only 37 pages.

Please make the correction and send it back for PPLS update.

Thank you



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

March 1, 2013

Jane M. Miller  
Tacoma AG, LLC  
c/o Biologic, Inc.  
115 Obtuse Hill Road  
Brookfield, CT 06804

Subject: Amendment – Adding Pests & Use Sites and Updating Label Language  
Bifen 25% EC  
EPA Reg. No. 83520-4  
Your submission dated October 17, 2012

Dear Ms. Miller:

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), as amended, is acceptable subject to the comments listed below. Two (2) copies of the finished labeling must be submitted prior to releasing the product for shipment. A stamped copy of the label is enclosed for your records.

1. In the **Precautionary Statements** replace "Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco" with "Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet".
2. Move the restriction "In New York State, this product may not be applied within 100 feet (using ground equipment) to 300 feet (using aerial equipment) of coastal marshes or streams that drain into coastal marshes" following the Additional Requirements for Aerial Application section under **Spray Drift Requirements** language.
3. In the **Additional Requirements for Aerial Application** section reinstate "The minimum practical boom length should be used and must not exceed 75% of wing span or 80% rotor diameter".
4. Under the **Corn** use instructions you may delete the restriction "Use of Bifen 25% EC on corn is prohibited in all coastal counties".
5. Under the use instructions for **Dried Beans and Peas** replace the restriction "Do not apply

more than 0.2 lb. active ingredient (12.8 ounces formulated) to peas, or 0.3 lb. active ingredient (19.2 ounces formulated product) to beans per acre per season" with "Do not apply more than 0.2 lb. active ingredient (12.8 ounces formulated) to peas".

6. On page 39, under **Foliar Sprays to Ornamentals and Trees** replace "For applications to ornamentals (including but not limited to trees, shrubs ... etc)." with "For applications to ornamentals (including trees, shrubs ... etc)".
7. On page 42, under **Imported Fire Ants** replace "... mound drenches that will eliminate existing colonies" with "... mound drenches that will control existing colonies".
8. Under **Ticks** replace the restriction "Repeat application should be limited to no more than once per seven days" with "Repeat application must be limited to no more than once per seven days".

If you have any questions regarding this action, please contact BeWanda Alexander at [Alexander.bewanda@epa.gov](mailto:Alexander.bewanda@epa.gov) or (703) 305-7460.

Sincerely,



Richard Gebken  
Product Manager  
Insecticide Branch  
Registration Division (7505P)

Enclosure

3/31

**MASTER LABEL**

**RESTRICTED USE PESTICIDE**

**Toxic to fish and aquatic organisms**

For retail sale to and use only by certified applicators or persons under their direct supervision and only for the uses covered by the certified applicator's certification.

**GROUP 3A INSECTICIDE**

**BIFEN 25% EC**  
**Insecticide/Miticide**

For use to control listed insects and mites on artichokes, brassicas, caneberries, canola, cilantro, citrus, coriander, corn, cotton, crambe, cucurbits, dried beans and peas, fruiting vegetables, grapes, head lettuce, hops, leafy brassicas, mayhaw, okra, peanuts, pears, rapeseed, root crops, soybeans, spinach, succulent peas and beans, tobacco, and tuberous and corm vegetables.

[For use to control listed insect pests on Ornamentals and Trees (including Field and Container Grown Nursery Stock, Christmas Trees, Interiorscapes and Plantscapes, Lawns, Trees and Shrubs, and on Golf Courses and Sod Farms)

DO NOT APPLY THIS PRODUCT ON GOLF COURSES AND SOD FARMS IN NASSAU OR SUFFOLK COUNTY, NEW YORK].

[<PRODUCT NAME> contains Bifenthrin, the active ingredient used in <BRAND NAME>™ or ®.]

[<PRODUCT NAME> is not manufactured or distributed by <BASIC REGISTRANT /

BRAND HOLDER>, seller of <BRAND>™ or ®.]

[<BRAND>™ or ® is a trademark of <TRADEMARK HOLDER>.]

**ACTIVE INGREDIENT:**

Bifenthrin: (2-methyl[1,1-biphenyl]-3-yl)methyl 3-(2-chloro-3,3,3-

trifluoro-1-propenyl)-2,2-dimethyl-cyclopropanecarboxylate\*, . . . . . 25.0%

**OTHER INGREDIENTS\*\*:** . . . . . 75.0%

**TOTAL** . . . . . 100.0%

**%BY WT.**

\*Cis isomers 97% minimum, trans isomers 3% maximum.

\*\*Contains xylene range aromatic solvents.

This product contains 2 pounds active ingredient per gallon.

**ACCEPTED**  
**with COMMENTS**  
**In EPA Letter Dated**

**MAR 1 2013**

Under the Federal Insecticide,  
Fungicide, and Rodenticide Act,  
as amended, for the pesticide  
registered under EPA Reg. No.

83520-4

**KEEP OUT OF REACH OF CHILDREN**  
**WARNING-AVISO**

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail).

[See [side] [other] [inside label booklet] [panel] for additional precautionary statements.]

EPA Reg. No. 83520-4

EPA Est. No.

Net Contents: \_\_\_\_\_

Manufactured For:

Tacoma AG, LLC

P.O. Box 14073

Durham, NC 27709

Orig. Approved 11 29 2006

Amendment to delete state specific directions and add crops 10 01 2012

- 1 -



**MASTER LABEL**

• Vinyl and Aluminum Siding: Do not spray directly onto vinyl or aluminum siding. If Bifen 25% EC inadvertently contacts vinyl and aluminum siding (particularly lightly colored, aged, weathered or otherwise damaged), it may result in staining, bleaching or discoloration. Wash off thoroughly with detergent and water. Factors such as extreme heat and direct sunlight can promote damage when using emulsifiable concentrates. Avoid application to vinyl or aluminum siding while exposed to direct sunlight or during the heat of the day.

**CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY**

**BEFORE BUYING OR USING THIS PRODUCT**, read the entire Directions for Use and the following Conditions of Sale and Limitation of Warranty and Liability. By buying or using this product, the buyer or user accepts the following Conditions of Sale and Limitation of Warranty and Liability, which no employee or agent of TACOMA AG, LLC or the seller is authorized to vary in any way.

Follow the Directions for Use of this product carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop or other plant injury, ineffectiveness, or other unintended consequences may result from such risks as weather or crop conditions, mixture with other chemicals not specifically identified in this products label, or use of this product contrary to the label instructions, all of which are beyond the control of TACOMA AG, LLC and the seller. The buyer or user of this product assumes all such inherent risks.

Subject to the foregoing inherent risks, TACOMA AG, LLC warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use when the product is used in strict accordance with such Directions for Use under normal conditions of use. EXCEPT AS WARRANTED IN THIS LABEL, THIS PRODUCT IS SOLD AS IS TO THE EXTENT ALLOWED BY APPLICABLE LAW. TACOMA AG, LLC MAKES NO OTHER WARRANTY, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR ELIGIBILITY OF THIS PRODUCT FOR ANY PARTICULAR TRADE USAGE.

TO THE EXTENT ALLOWED BY APPLICABLE LAW, THE BUYERS OR USERS EXCLUSIVE REMEDY FOR ANY INJURY, LOSS, OR DAMAGE RESULTING FROM THE HANDLING OR USE OF THIS PRODUCT, INCLUDING BUT NOT LIMITED TO CLAIMS OF BREACH OF WARRANTY OR CONTRACT, NEGLIGENCE, STRICT LIABILITY, OR OTHER TORTS, SHALL BE LIMITED TO ONE OF THE FOLLOWING, AT THE ELECTION OF TACOMA AG, LLC OR THE SELLER: DIRECT DAMAGES NOT EXCEEDING THE PURCHASE PRICE OF THE PRODUCT OR REPLACEMENT OF THE PRODUCT. TO THE EXTENT ALLOWED BY APPLICABLE LAW, TACOMA AG, LLC AND THE SELLER SHALL NOT BE LIABLE TO THE BUYER OR USER OF THIS PRODUCT FOR ANY CONSEQUENTIAL, SPECIAL, OR INDIRECT DAMAGES, OR DAMAGES IN THE NATURE OF A PENALTY.

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 Baythroid – trademark of Bayer  
 Danitol – trademark of Sumitomo Chemical Company, Ltd.  
 Scout Xtra – trademark of Hoechst Schering Agrovet S.A.

# There is an **ELECTRONIC LABEL** for this action

You can use Acrobat to compare the e-label to the previous version (and find the changes). You can also use Acrobat to mark-up the e-label with your comments.

If e-label was submitted via

**CD-ROM with paper application**

then you will find e-label in

**Electronic Label Library**

*If the e-label is not found in the ELL then it was probably not named correctly and could not be entered into the ELL. However, the file can be retrieved from the CD which is retained by the Front End.*

or

If e-label was submitted via

**XML E-Submission (no paper)**

then you will find e-label in

**Documentum**

See overview of processing e-labels on other side of this sheet.  
If you have any questions on e-labels, please contact one of your division e-label experts:

AD	Willie Abney	308-1689
	Renae Whitaker	308-7003
	Tracy Lantz	308-6415
BPPD		
RD	Tom Harris	308-9423

